

1967
CENSUS OF MINERAL INDUSTRIES

VOLUME I
PRELIMINARY REPORTS

SUMMARY STATISTICS.
AND
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1967 CENSUS OF MINERAL INDUSTRIES

INDEX OF PRELIMINARY REPORTS, BY REPORT NUMBER AND INDUSTRY CODE

Report Number	Summary Title
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MIC(P)-1 (Rev.)	General Statistics for Industry Groups and Industries
MIC67(P)-2	General Statistics for Geographic Divisions and States
MIC67(P)-3	Water Use in Mineral Industries: 1968

Report Number	SIC Code	Industry	Report Number	SIC Code	Industry
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MIC67(P)-

MIC67(P) -

10A-1	1011	Iron ores
10B-1	1021	Copper ores
2	1031	Lead and zinc ores
3	(1042)	Lode and
	(1043)	Placer gold
4	1044	Silver ores
10C-1	1051	Bauxite and other aluminum ores
2	1062	Manganese ores
3	(1064)	Tungsten ores and
	(1069)	Ferroalloy ores, n.e.c.
10D-1	1081	Metal mining services
2	(1092)	Mercury ores and
	(1099)	Metallic ores, n.e.c.
3	1093	Titanium ores
4	1094	Uranium-radium-vanadium ores
11A-1	1111	Anthracite
2	1112	Anthracite mining services
12A-1	(1211)	Bituminous coal and
	(1212)	Lignite
2	1213	Bituminous coal and Lignite mining services

13A-1	1311	Crude petroleum and natural gas
2		Crude petroleum and natural gas-50, 100, and 200 largest companies
13B	1321	Natural gas liquids
13C-1	1381	Drilling oil and gas wells
2	1382	Oil and gas exploration services
3	1389	Oil and gas field services, n.e.c.
14A-1	1411	Dimension stone
2	(1422)	Crushed and
	(1423)	broken stone and
	(1429)	stone, n.e.c.
14B	(1442)	Sand and
	(1446)	gravel
14C-1	1452	Bentonite
2	1453	Fire clay
3	1454	Fuller's earth
4	1455	Kaolin and ball clay
5	1456	Feldspar
6	1459	Clay and related minerals, n.e.c.

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Report Number	SIC Code	Industry
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Report Number	SIC Code	Industry
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14D-1	1472	Barite
2	1473	Fluorspar
3	1474	Potash, soda, and borate minerals
4	1475	Phosphate rock
5	1476	Rock salt
6	1477	Sulfur
7	1479	Chemical and fertilizer mining, n.e.c.

MIC67(P)-

14E-1	1481	Nonmetallic Minerals (Except Fuel) Services
2	1492	Gypsum
3	1493	Mica
4	(1494	Native asphalt and bitumens (1498 and peat
5	(1495	Pumice and pumicite and Natural (1497 abrasives, except sand
6	1496	Talc, soapstone, and pyrophyllite
7	1499	Nonmetallic minerals, n.e.c.

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1967 Census of MINERAL INDUSTRIES

INDUSTRY SERIES



U.S. DEPARTMENT OF COMMERCE/Bureau of the Census

preliminary report

MIC67(P)-1(revised)

General Statistics for Industry Groups and Industries

This report consists of revisions of the general statistics for industries which have been issued in a series of 46 reports. The data parallel those shown in the earlier preliminary report, "General Statistics for Industry Groups and Industries," (MIC67(P)-1), released in April 1970, but represent revised figures based on more detailed review. The table in this summary report provides data on employment, man-hours, payrolls, value added in mining, capital expenditures, cost of supplies and purchased machinery, and value of shipments and receipts for Mineral Industries. Establishments are classified in mineral industries in accordance with industry definitions described in the 1967 edition of the Standard Industrial Classification (SIC) Manual. Data are included for all industries and industry groups with comparative data from the 1963 Census of Mineral Industries.

For oil and gas field operations and contract services, reports were required for units somewhat different from the "establishment" reporting unit used for other types of mining. Every concern which operated oil and gas wells, drilled such wells for its own account or for others, performed exploration work for oil or gas, or performed oil and gas field services for others during any part of calendar year 1967 was required to submit a separate report for each State or for each district within Texas, Louisiana, New Mexico, and California (however, information on employment, oil and gas production, and capital expenditures was requested by county). Further, concerns which supplied contract services for others were required to submit a separate report for each State. (In this instance also, information on employment, receipts for services, and capital expenditures was requested by county.)

In the 1967 Census, for the first time, approximately 10,000 single-unit establishments with 1 to 4 employees were excused from filing

reports. Under special arrangements which safeguarded the confidentiality of both tax and census records, limited data on payrolls, sales, and industry classification from the administrative records of the Social Security Administration and the Internal Revenue Service were made available to the Census Bureau for use in the 1967 censuses of business, manufactures, and mineral industries. Estimates for data other than payrolls and sales for these small establishments were constructed from industry averages. The effect on industry aggregates is slight in most industries. For mining as a whole, they account for less than 1 percent of value added.

In the 1967 Census of Mineral Industries, data for all single-unit establishments without paid employees were excluded because of the difficulty in developing a mailing list for these establishments. The exclusion of these establishments has had only a slight effect on industry aggregates for most industries. Data for establishments without employees were included in the 1963, 1958, and 1954 censuses if these establishments reported more than \$500 in one of the following data items: (1) value of shipments and receipts, (2) cost of supplies and purchased machinery, or (3) capital expenditures. In the 1963 Census establishments without paid employees for mining as a whole accounted for approximately 3 percent of value added.

As in earlier censuses, a number of small establishments may have been misclassified as to industry. However, such possible misclassifications have no significant effect on the statistics other than the number of establishments. As indicated above, report forms were not mailed to very small establishments (less than 5 employees). The industry classifications for these establishments were assigned on the basis of brief descriptions of the general activity of the establishment. Where the description is

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incomplete or there are relatively fine lines of demarcation between industries or between mining and nonmining activity, the code assigned to an establishment could differ from that which would have been assigned on the basis of more complete product information. Therefore, the total establishment count should be reviewed as an approximation rather than a precise measurement. The counts of establishments with 20 or more employees are far more reliable than the total number of establishments.

Respondents were asked to file separate reports for any central administrative offices or auxiliary units. Classification of employment and payroll data at such offices and auxiliary units was based on the mining establishments served. Such data are included in the data for the individual industries and groups shown in this report. Since the figures shown in this

report have been subjected to a preliminary review only, they must be regarded as approximations of the final census figures. No adjustments in the dollar figures have been made for changes in price or wage levels from the comparison year of 1963.

The census of mineral industries is the 16th such census for the United States. The first census was conducted in 1840, and since World War II, it has been scheduled as a 5-year program. However, for a variety of reasons, the actual censuses were conducted for 1954, 1958, and 1963. In recent years, the census of mineral industries has been conducted as part of the economic census program which also includes censuses of manufactures, business, and transportation.

An explanation of the data items included in this report appears in the appendix.

General Statistics for Industry Groups and Industries: 1967 and 1963

(See appendix for explanation of column captions)

Code	Industry group and industry	1967											1963	
		Establishments		All employees		Production, development, and exploration workers			Value added in mining	Cost of supplies, etc., and purchased machinery installed	Value of shipments and receipts	Capital expenditures	All employees	Value added in mining
		Total	With 20 employ-ees or more	Number	Payroll	Number	Man-hours	Wages						
		(number)	(number)	(1,000)	(million dollars)	(1,000)	(millions)	(million dollars)	(million dollars)	(million dollars)	(million dollars)	(million dollars)	(1,000)	(million dollars)
	ALL INDUSTRIES, TOTAL...	28,552	5,664	566.8	4,186.9	433.9	895.2	2,892.3	19,283.6	10,539.6	25,795.8	4,027.6	615.6	15,910.0
10	Metal mining.....	1,155	313	71.1	552.4	55.5	114.1	396.3	1,552.8	1,090.4	2,302.3	340.9	77.2	1,418.2
11	Anthracite mining.....	391	67	7.1	40.5	6.1	11.4	34.4	80.6	79.3	153.5	6.6	11.8	120.5
12	Bituminous coal and lignite mining.....	4,077	1,054	124.4	926.3	108.9	212.4	776.8	2,009.5	1,269.5	2,945.1	334.0	133.9	1,606.7
13	Oil and gas extraction.....	16,297	2,673	244.4	1,856.2	168.4	348.7	1,094.5	13,356.0	7,023.7	17,403.3	2,976.2	271.5	11,019.8
14	Nonmetallic minerals, except fuels.....	6,632	1,155	119.7	811.6	95.0	208.6	590.3	2,284.7	1,076.7	2,991.5	370.0	121.2	1,744.8
10	METAL MINING.....	1,155	313	71.1	552.4	55.5	114.1	396.3	1,552.8	1,090.4	2,302.3	340.9	77.2	1,418.2
1011	Iron ores.....	148	79	22.7	186.1	18.0	36.3	133.9	662.1	401.0	954.4	108.7	23.1	549.3
1021	Copper ores.....	157	61	21.0	170.9	15.1	32.5	114.7	426.3	373.2	675.9	123.6	26.5	417.1
1031	Lead and zinc ores.....	165	57	9.0	60.1	7.3	14.7	45.5	101.1	90.8	149.0	42.9	9.4	84.4
	Lead ores subindustry...	104	23	4.3	30.7	3.4	6.7	22.0	37.0	63.0	65.8	34.2	4.3	34.0
	Zinc ores subindustry...	61	34	4.7	29.4	4.0	8.0	23.5	64.1	27.8	83.2	8.7	5.1	50.3
104	Gold and silver ores.....	182	16	3.9	26.0	3.3	7.1	20.6	52.1	16.5	64.0	4.5	4.2	49.0
1042	Lode gold.....	76	6	2.4	16.2	2.0	4.6	12.9	33.3	10.5	42.3	1.5	2.4	21.3
1043	Placer gold.....	47	2	0.2	1.1	0.2	0.4	0.9	2.1	0.7	2.5	0.3	0.4	5.8
1044	Silver ores.....	59	8	1.3	8.7	1.1	2.0	6.8	16.7	5.3	19.2	2.7	1.5	21.9
1051	Bauxite and other aluminum ores.....	17	7	0.6	4.1	0.5	0.8	2.9	23.8	6.5	29.9	0.4	0.6	17.5
106	Ferroalloy ores, except vanadium.....	40	9	4.0	31.8	3.1	6.2	23.0	73.3	46.9	107.5	12.6	3.1	66.4
1062	Manganese ores.....	18	3	0.1	0.7	0.1	0.2	0.6	1.4	1.8	3.0	0.2	0.2	2.3
1064	Tungsten ores.....	22	6	3.8	31.1	3.0	6.0	22.4	71.9	45.0	104.5	12.4	2.9	64.1
1069	Ferroalloy ores, n.e.c.....													
1081	Metal mining services.....	141	31	2.6	18.8	2.3	4.4	15.7	33.7	16.9	48.2	2.4	2.2	24.7
109	Miscellaneous metal ores..	305	53	7.5	54.6	5.9	12.0	40.0	180.5	138.7	273.3	45.8	8.1	209.8
1092	Mercury ores.....	62	9	0.7	4.7	0.6	1.2	3.8	8.6	(D)	10.8	(D)	0.3	2.6
1093	Titanium ores.....	7	6	0.9	6.4	0.7	1.4	4.9	17.3	7.5	23.5	1.3	1.0	15.0
1094	Uranium-radium-vanadium ores	198	34	5.5	41.1	4.2	8.7	29.3	147.6	117.5	224.2	40.9	6.7	190.6
1099	Metallic ores, n.e.c.....	38	4	0.3	2.4	0.3	0.6	2.0	7.1	(D)	14.8	(D)	0.2	1.6
11	ANTHRACITE MINING.....	391	67	7.1	40.5	6.1	11.4	34.4	80.6	79.3	153.5	6.6	11.8	120.5
1111	Anthracite.....	366	56	6.3	36.0	5.4	10.1	30.4	73.6	75.8	144.3	5.1	10.7	110.5
1112	Anthracite mining services..	25	11	0.8	4.5	0.7	1.3	4.0	7.0	3.6	9.3	1.4	1.1	10.0
12	BITUMINOUS COAL AND LIGNITE MINING.....	4,077	1,054	124.4	926.3	108.9	212.4	776.8	2,009.5	1,269.5	2,945.1	334.0	133.9	1,606.7
1211	Bituminous coal.....	3,911	1,029	122.5	912.5	107.2	208.8	764.7	1,974.9	1,252.1	2,897.8	329.3	132.0	1,578.1
1212	Lignite.....	45	7	0.5	3.3	0.4	0.8	2.6	12.9	6.5	17.9	1.5	0.5	11.8
1213	Bituminous and lignite mining services, n.e.c.....	121	18	1.4	10.5	1.3	2.8	9.6	21.7	10.9	29.4	3.2	1.3	16.8
13	OIL AND GAS EXTRACTION..	16,297	2,673	244.4	1,856.2	168.4	348.7	1,094.5	13,356.0	7,023.7	17,403.3	2,976.2	271.5	11,019.8
1311	Crude petroleum and natural gas.....	8,794	1,032	126.8	1,051.6	66.8	131.4	443.6	10,956.4	3,297.2	11,737.0	2,516.6	145.2	9,016.4
	Crude petroleum sub-industry.....	7,291	852	106.6	900.5	55.1	108.0	366.3	8,926.2	2,743.9	9,645.2	2,025.0	125.8	7,813.0
	Natural gas subindustry..	1,503	180	20.1	151.1	11.8	23.3	77.3	2,030.1	553.3	2,091.8	491.6	19.4	1,203.4
1321	Natural gas liquids.....	694	217	12.5	100.0	10.5	21.1	82.5	885.9	2,983.0	3,654.3	214.6	13.9	762.1
138	Oil and gas field services	6,809	1,424	105.1	704.5	91.0	196.2	568.4	1,513.6	743.5	2,011.9	245.0	112.4	1,241.4
1381	Drilling oil and gas wells..	2,324	575	42.4	293.9	38.5	81.4	254.3	628.1	401.9	889.9	140.2	55.4	653.3
1382	Oil and gas field exploration services.....	629	99	8.5	53.9	6.6	15.5	40.8	126.4	46.8	153.1	20.0	8.7	90.0
1389	Oil and gas field services, n.e.c.....	3,856	750	54.2	356.8	44.7	99.3	273.3	759.0	294.8	968.9	84.8	48.3	498.0

See footnotes at end of table.

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General Statistics for Industry Groups and Industries: 1967 and 1963-Continued

(See appendix for explanation of column captions)

Code	Industry group and industry	1967											1963	
		Establishments		All employees		Production, development, and exploration workers			Value added in mining (million dollars)	Cost of supplies, etc., and purchased machinery installed (million dollars)	Value of shipments and receipts (million dollars)	Capital expenditures, new (million dollars)	All employees (1,000)	Value added in mining (million dollars)
		Total (number)	With 20 employees or more (number)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Man-hours (millions)	Wages (million dollars)						
14	NONMETALLIC MINERALS, EXCEPT FUELS, MINING...	6,632	1,557	119.7	811.6	95.0	208.6	590.3	2,284.7	1,076.7	2,991.5	370.0	121.2	1,744.8
1411	Dimension stone.....	252	23	2.0	9.6	1.8	3.4	7.8	18.5	5.3	22.7	1.2	2.2	14.8
142	Crushed and broken stone..	2,039	706	42.7	278.9	35.7	80.3	214.5	700.3	366.8	959.0	107.9	43.2	581.7
1422	Crushed and broken limestone	1,494	504	30.7	197.2	25.8	58.3	153.4	491.7	251.8	666.1	77.4	31.1	408.5
1423	Crushed and broken granite..	145	79	4.5	26.9	3.9	8.9	22.0	79.8	46.9	113.6	13.0	4.1	61.7
1429	Crushed and broken stone, n.e.c.....	400	123	7.5	54.8	6.0	13.1	39.1	128.8	68.1	179.3	17.6	8.1	111.5
144	Sand and gravel.....	3,278	496	35.1	232.7	28.6	62.0	178.1	556.3	264.0	726.4	93.8	40.1	513.7
1442	Construction sand and gravel	3,115	432	31.0	205.4	25.4	55.1	159.0	490.2	230.6	636.4	84.3	36.4	459.3
1446	Industrial sand.....	163	64	4.1	27.3	3.2	6.8	19.2	66.2	33.4	90.0	9.6	3.7	54.4
	Glass sand subindustry..	41	27	1.7	11.3	1.3	2.9	7.9	27.1	13.1	36.4	3.9	1.6	22.6
	Molding sand subindustry	71	18	1.1	7.6	0.9	1.9	5.4	17.3	11.6	25.4	3.5	0.9	12.8
	Industrial sand, n.e.c., subindustry.....	51	19	1.3	8.4	1.0	2.1	5.9	21.8	8.7	28.2	2.3	1.3	19.0
145	Clay and related minerals.	355	120	9.4	57.7	7.6	16.5	42.9	154.9	87.2	218.0	24.2	8.3	113.6
1452	Bentonite.....	32	16	0.9	5.4	0.6	1.4	3.4	13.2	8.8	21.2	0.9	0.8	11.4
1453	Fire clay.....	100	12	0.8	5.2	0.7	1.5	4.3	18.4	6.1	23.0	1.5	1.0	12.6
1454	Fuller's earth.....	16	11	1.1	5.1	1.0	2.0	4.1	15.6	11.0	22.5	4.1	0.8	9.1
1455	Kaolin and ball clay.....	63	34	3.7	24.1	2.9	6.4	16.7	65.2	34.4	88.0	11.6	3.3	49.8
1456	Feldspar.....	17	9	0.5	2.6	0.4	0.9	2.0	6.6	3.4	9.4	0.5	0.5	6.1
1459	Clay and related minerals, n.e.c.....	127	38	2.3	15.3	2.0	4.4	12.4	35.9	23.5	53.9	5.6	2.0	24.5
147	Chemical and fertilizer minerals.....	234	130	23.7	187.9	15.9	34.5	113.2	741.0	299.7	909.6	131.2	21.0	433.3
1472	Barite.....	30	10	0.9	4.7	0.8	1.6	3.9	15.3	5.6	19.6	1.2	1.4	11.1
1473	Fluorspar.....	32	9	0.7	4.7	0.6	1.3	3.7	11.0	9.7	19.6	1.1	0.8	8.9
1474	Potash, soda, borate minerals.....	34	27	7.9	68.0	5.1	10.8	41.4	188.1	71.1	216.0	43.2	7.1	156.2
1475	Phosphate rock.....	69	41	8.1	59.3	5.4	12.0	35.0	199.1	145.0	296.6	47.4	5.6	94.9
1476	Rock salt.....	26	18	2.6	19.3	1.9	4.4	13.0	71.0	17.5	81.3	7.3	2.4	49.5
1477	Sulfur.....	30	21	3.2	30.5	1.8	4.0	15.1	253.1	48.3	271.1	30.3	2.6	100.3
1479	Chemical-fertilizer mining, n.e.c.....	13	4	0.2	1.6	0.2	0.4	1.1	3.4	2.6	5.3	0.6	1.1	12.4
1481	Nonmetallic minerals services.....	108	10	0.8	5.9	0.7	1.5	5.0	11.4	5.9	15.4	1.9	0.9	9.3
149	Miscellaneous nonmetallic minerals.....	366	72	6.0	38.8	4.8	10.3	28.8	102.3	47.8	140.4	9.8	5.5	78.3
1492	Gypsum.....	33	5	0.4	2.3	0.3	0.7	1.9	7.3	2.5	9.3	0.6	0.5	7.8
1493	Mica.....	19	5	0.3	1.8	0.2	0.5	1.2	5.3	1.9	6.7	0.4	0.4	3.9
1494	Native asphalt and bitumens.	13	7	0.5	3.0	0.4	0.8	2.2	5.8	3.7	8.7	0.8	0.4	6.3
1495	Pumice and pumicite.....	29	2	0.2	1.0	0.1	0.2	0.7	2.0	0.9	2.8	0.2	0.2	4.2
1496	Talc, soapstone, and pyrophyllite.....	53	19	1.2	7.4	1.1	2.3	5.8	16.9	6.1	21.3	1.7	1.3	13.7
1497	Natural abrasives, except sand.....	18	5	0.3	2.2	0.2	0.5	1.4	4.3	2.8	5.7	1.4	0.3	4.1
1498	Peat.....	76	4	0.5	2.3	0.4	1.0	2.0	6.7	2.3	8.5	0.5	0.5	5.6
1499	Nonmetallic minerals, n.e.c.	125	25	2.6	18.8	2.0	4.3	13.6	54.1	27.6	77.5	4.3	1.9	32.6

Note: The difference between value of shipments and receipts and payroll includes, in addition to profits, the cost of all supplies and purchased machinery installed, supplements to wages, depreciation, interest, rents, as well as purchases such as advertising, legal, accounting, maintenance and repair, and taxes. Detail may not add to totals due to independent rounding.

(D) Withheld to avoid disclosing figures for individual companies. n.e.c. Not elsewhere classified.

¹In 1967, for the first time, single unit establishments without paid employees were excluded from the Census. While these establishments may have accounted for greater than 15 percent of the total number of establishments in 1963, they only accounted for approximately 3 percent of the value added for mining as a whole. Also included in 1967, and not in previous censuses, are the establishments counts for central administrative offices or auxiliary units.

Appendix

EXPLANATION OF TERMS

(For a more complete discussion of these terms and the method of compiling the Census of Mineral Industries, see the Introduction to the 1963 Census of Mineral Industries, Volume I.)

All Employees--All full-time and part-time employees on the payrolls of operating mineral establishments for any part of the pay period ended nearest the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of the corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The number of production workers is the average of those for mid-month payroll periods of March, May, August, and November. The "all employee" number is the average number of production workers plus the number of other employees in mid-March.

Payroll--This item includes all forms of compensation such as salaries, wages, commissions, dismissal pay, all bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' Social Security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of these establishments, if a corporation; it excludes payments to the proprietor or partners, if an unincorporated concern. Respondents were told that in reporting they could follow the definition of payroll used for calculating the Federal withholding tax.

Production, Development, and Exploration Worker Man-Hours--The total man-hours figures represent all man-hours that production, development, and exploration workers worked both on active days during which there was production or development work, and inactive days, when only watchmen, inspectors, repairmen, and other maintenance men were on duty. They include all man-hours worked or paid for at the mining operations, except hours paid for vacations, holidays, or sick leave, when the employee was not at the establishment. Included are actual overtime hours, not straight-time equivalent hours. Man-hours of working proprietors or partners are excluded.

Cost of Supplies, etc., and Purchased Machinery--The 1967 census report forms requested information on supplies and purchased machinery installed; fuels and electric energy used; and contract work done by others for each establishment. These items included charges to both the current and capital accounts. The figures reported were to include items used during 1967 whether purchased, withdrawn from inventories, or received from other establishments of the company. For selected supplies and fuels and for electric energy, both quantity and cost data were requested. The cost data refer to direct charges actually paid or payable (after discounts) for items used during the year. Freight charges and other direct charges incurred by the establishment in acquiring the items are included. Where the company's records did not show actual amounts used, they were asked to approximate use by adding purchases (or receipts) during the year to opening inventory and subtracting closing inventory.

Separate figures were obtained for (a) selected supplies, minerals received for preparation, and purchased machinery installed; (b) electric energy purchased; (c) purchased fuels used for heat, power, or the generation of electricity; (d) contract work done by others; and (e) products bought and resold in the same condition. Supplies and equipment used in mine development, plant expansion, and capitalized repairs, which are chargeable to fixed assets accounts, were included, as were supplies furnished without charge to contractors for use at the mining operation and supplies sold to employees for use at the establishment. No data on such costs as advertising, insurance, telephone, and research and consulting services of other establishments; or on overhead costs, such as depreciation charges, rent, interest, and royalties were included in this item.

Specific Supplies Used and Minerals Prepared--In addition to the total cost of supplies, etc., and purchased machinery which every establishment was required to report, information was also collected on the consumption of major supplies used in mining. These supplies inquiries were restricted to those supplies which were important parts of the cost of production, exploration, and development of a particular industry and for which cost information was available from the firms' records. Information regarding the specific supplies consumed is shown in table 4.

On report forms for almost all mineral industries, except the contract services industries, a uniform inquiry was included on minerals prepared at the reported establish-

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U.S. DEPARTMENT OF COMMERCE
Bureau of the Census
Washington, D.C. 20233

OFFICIAL BUSINESS



POSTAGE AND FEES PAID
U.S. DEPARTMENT OF COMMERCE



1967 Census of MINERAL INDUSTRIES

SUMMARY SERIES



U.S. DEPARTMENT OF COMMERCE / Bureau of the Census

preliminary report

MIC67(P)-2

General Statistics for Geographic Divisions and States

This report presents preliminary results from the 1967 Census of Mineral Industries for geographic divisions and States. The table in this summary report provides data on employment, man-hours, payrolls, value added in mining, capital expenditures, cost of supplies and purchased machinery, and value of shipments and receipts for geographic divisions and States. Establishments are classified in mining in accordance with the definition described in the 1967 edition of the Standard Industrial Classification (SIC) Manual.

For oil and gas field operation and contract services, reports were required for units somewhat different from the "establishment" reporting unit used for other types of mining. Every concern which operated oil and gas wells, drilled such wells for its own account or for others, performed exploration work for oil or gas, or performed oil and gas field services for others during any part of calendar year 1967 was required to submit a separate report for each State or for each district within Texas, Louisiana, New Mexico, and California (however, information on employment, oil and gas production, and capital expenditures was requested by county). Further, concerns which supplied contract services for others were required to submit a separate report for each State. (In this instance also, information on employment, receipts for services, and capital expenditures was requested by county.)

In the 1967 Census, for the first time, approximately 10,000 single-unit establishments with 1 to 4 employees were excused from filing reports. Under special arrangements which safeguarded the confidentiality of both tax and census records, limited data on payrolls, sales, and industry classification from the administrative records of the Social Security Administration and the Internal Revenue Service were made available to the Census Bureau for use in the 1967 censuses of business, manufactures, and mineral industries. Estimates for data other than payrolls and sales for these small establishments were constructed from industry averages. The effect on industry

aggregates is slight in most industries. For mining as a whole, they account for less than 1 percent of value added.

In the 1967 Census of Mineral Industries, data for all single-unit establishments without paid employees were excluded because of the difficulty in developing a mailing list for these establishments. The exclusion of these establishments has had only a slight effect on industry aggregates for most industries. Data for establishments without employees were included in the 1963, 1958, and 1954 censuses if these establishments reported more than \$500 in one of the following data items: (1) value of shipments and receipts, (2) cost of supplies and purchased machinery, or (3) capital expenditures. In the 1963 Census establishments without paid employees for mining as a whole accounted for approximately 3 percent of value added.

Respondents were asked to file separate reports for any central administrative offices or auxiliary units. Classification of employment and payroll data at such offices and auxiliary units was based on the mining establishments served. Such data are included in the data for the individual industries and groups shown in this report. Since the figures shown in this report have been subjected to a preliminary review only, they must be regarded as approximations of the final census figures. No adjustments in the dollar figures have been made for changes in price or wage levels from the comparison year of 1963.

The census of mineral industries is the 16th such census for the United States. The first census was conducted in 1840, and since World War II, it has been scheduled as a 5-year program. However, for a variety of reasons, the actual censuses were conducted for 1954, 1958, and 1963. In recent years, the census of mineral industries has been conducted as part of the economic census program which also includes censuses of manufactures, business, and transportation.

An explanation of the data items included in this report appears in the appendix.

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General Statistics for All Mineral Industries, by Geographic Areas: 1967 and 1963

(Represents establishments classified in the mineral industries only. Excludes data for stone, sand and gravel, clay, and gypsum mines operated as parts of manufacturing establishments)

Geographic area	1967										1963		
	Establishments		All employees		Production, development, and exploration workers			Value added in mining (million dollars)	Cost of supplies, etc., and purchased machinery installed (million dollars)	Value of shipments and receipts (million dollars)	Capital expenditures (million dollars)	All employees (1,000)	Value added in mining (million dollars)
	Total (number)	With 20 employees or more (number)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Man-hours (millions)	Wages (million dollars)						
United States, total..	28,552	5,664	566.8	4,186.9	433.9	895.2	2,892.3	19,283.6	10,539.6	25,795.8	4,027.6	615.6	15,910.0
New England.....	299	55	3.9	28.4	2.9	6.3	18.5	51.6	24.6	67.9	8.3	4.0	42.4
Maine.....	35	4	0.3	1.2	0.3	0.5	1.1	2.9	2.6	2.7	2.8	0.2	1.5
New Hampshire.....	26	3	0.2	1.4	0.1	0.5	1.1	3.3	1.6	4.1	0.8	0.2	2.2
Vermont.....	38	13	1.0	5.1	0.8	1.7	4.1	11.9	4.1	15.1	0.9	0.8	8.8
Massachusetts.....	107	19	1.2	11.1	0.9	1.9	5.9	17.0	9.4	24.5	1.9	1.7	16.9
Rhode Island.....	22	7	0.3	2.1	0.2	0.5	1.7	3.4	2.0	4.8	0.6	0.2	2.0
Connecticut.....	71	9	0.9	7.4	0.6	1.3	4.5	13.0	4.9	16.7	1.2	0.8	11.0
Middle Atlantic.....	2,642	527	54.4	399.6	43.8	88.6	291.1	788.9	511.7	1,193.6	107.0	62.6	740.3
New York.....	470	87	8.3	81.5	5.7	12.6	43.1	137.3	54.0	175.8	15.5	9.9	129.7
New Jersey.....	139	44	2.8	20.9	1.9	4.3	12.8	47.5	25.4	66.9	6.0	3.8	55.2
Pennsylvania.....	2,033	396	43.3	297.2	36.2	71.7	235.1	604.1	432.3	950.9	85.5	48.9	555.3
East North Central.....	3,398	619	60.1	459.1	48.3	101.9	343.3	1,221.3	681.4	1,702.5	200.2	62.2	1,042.5
Ohio.....	1,207	202	18.4	139.6	14.5	30.1	94.3	289.8	173.2	410.7	52.2	17.6	223.9
Indiana.....	516	88	6.4	47.2	5.3	11.1	36.2	135.2	52.5	168.3	19.4	7.3	107.5
Illinois.....	977	219	21.0	168.6	16.9	36.6	128.5	471.4	190.4	593.5	68.3	22.0	450.5
Michigan.....	460	84	12.0	85.6	9.7	20.0	70.0	283.0	244.5	475.4	52.1	12.2	223.1
Wisconsin.....	238	26	2.3	18.1	1.9	4.1	14.3	41.9	20.8	54.6	8.1	3.1	37.5
West North Central.....	2,464	385	40.9	278.7	32.1	65.8	201.3	1,132.0	667.4	1,587.7	211.7	44.1	1,069.3
Minnesota.....	231	65	13.0	99.1	10.2	19.9	71.1	417.2	252.1	586.9	82.4	13.2	367.7
Iowa.....	241	43	2.9	18.7	2.5	5.7	14.6	39.9	35.7	68.6	7.0	2.7	33.2
Missouri.....	381	73	8.8	59.2	5.6	12.0	37.6	102.4	81.6	143.1	40.9	7.7	66.3
North Dakota.....	161	24	1.8	12.5	1.7	3.2	10.1	76.1	45.5	102.2	19.4	1.7	73.7
South Dakota.....	80	7	2.0	13.9	1.8	4.4	11.2	23.4	11.2	33.1	1.5	2.6	25.6
Nebraska.....	243	25	1.7	9.7	1.4	2.8	7.6	42.1	18.2	53.0	7.3	2.1	69.3
Kansas.....	1,127	148	10.7	65.6	8.9	17.7	49.1	430.9	223.1	600.8	53.2	14.1	433.4
South Atlantic.....	3,227	752	80.0	541.2	69.5	140.5	446.3	1,333.1	900.0	1,984.2	248.9	82.2	1,011.6
Delaware.....	118	12	0.2	12.1	0.1	0.4	1.1	12.6	11.5	13.8	10.3	2.4	35.3
Maryland.....	127	30	1.8	12.1	1.3	3.6	8.6	31.8	19.7	46.8	4.7	2.4	35.3
District of Columbia..	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Virginia.....	738	171	13.3	77.9	11.8	23.1	65.0	181.0	115.0	265.5	30.5	15.6	144.8
West Virginia.....	1,765	334	45.6	336.7	40.6	78.3	287.9	742.8	481.0	1,087.8	135.9	47.6	596.1
North Carolina.....	160	59	3.4	18.7	3.0	6.4	14.3	46.6	29.4	67.4	8.6	2.6	31.6
South Carolina.....	55	24	1.5	8.4	1.3	2.8	6.3	20.7	15.0	31.6	4.1	1.7	19.0
Georgia.....	159	64	6.0	34.9	5.2	11.7	27.5	105.9	59.2	144.9	20.2	5.7	75.8
Florida.....	205	68	8.1	50.3	6.2	14.2	35.5	201.7	179.2	336.3	44.6	6.6	109.0
East South Central.....	2,207	509	43.6	276.7	38.5	75.6	228.2	862.3	517.4	1,206.9	172.9	48.8	747.0
Kentucky.....	1,262	259	24.8	157.3	22.2	42.3	133.0	403.6	307.3	627.4	83.6	27.8	337.4
Tennessee.....	353	99	6.7	39.4	5.9	12.6	31.6	116.9	54.2	151.9	19.2	6.9	90.1
Alabama.....	286	82	7.9	50.4	7.2	13.5	43.3	148.6	64.8	193.0	20.3	8.9	119.0
Mississippi.....	306	69	4.2	29.6	3.2	7.2	20.2	193.2	91.1	234.6	49.8	5.3	200.5
West South Central.....	9,631	1,891	176.2	1,335.7	118.7	250.4	768.1	10,090.3	5,060.1	13,058.9	2,091.6	196.4	7,801.8
Arkansas.....	298	56	3.9	24.8	3.3	6.9	19.4	130.2	67.0	165.2	32.0	4.7	110.2
Louisiana.....	1,361	423	47.0	374.2	35.0	76.9	247.7	3,945.5	2,202.5	5,108.8	1,039.3	45.7	2,640.0
Oklahoma.....	1,791	301	29.8	219.0	17.5	35.2	103.1	987.6	435.4	1,233.7	189.3	32.9	805.9
Texas.....	6,181	1,111	95.5	717.8	62.9	131.4	398.0	5,027.0	2,355.2	6,551.2	831.0	113.0	4,245.7
Mountain.....	2,771	521	67.3	517.5	52.0	108.0	372.2	2,214.6	1,302.8	3,047.8	469.6	77.0	2,101.8
Montana.....	313	39	5.4	39.7	4.4	9.1	31.5	131.1	110.1	200.3	40.9	7.6	111.0
Idaho.....	94	23	3.1	23.1	2.6	5.1	18.3	48.0	27.0	63.6	11.4	3.3	40.1
Wyoming.....	434	99	8.7	64.8	6.9	14.5	47.4	501.5	212.9	624.0	90.4	8.7	453.1
Colorado.....	642	90	11.6	92.9	7.7	15.8	55.4	237.0	130.7	331.1	36.6	11.2	253.3
New Mexico.....	672	149	16.4	119.3	13.0	26.6	88.7	717.8	464.6	1,020.9	161.5	17.6	649.6
Arizona.....	189	36	10.9	90.0	8.2	18.4	64.8	285.9	143.0	368.7	60.2	15.2	287.4
Utah.....	298	67	8.5	65.3	7.0	13.7	48.3	239.7	167.2	353.1	53.8	10.7	267.8
Nevada.....	129	18	2.7	22.4	2.2	4.8	17.8	53.6	47.3	86.1	14.8	2.7	39.6
Pacific.....	1,913	405	40.5	350.1	28.1	58.1	223.4	1,589.6	874.1	1,946.3	517.4	38.4	1,353.3
Washington.....	191	19	1.5	13.1	1.0	2.3	9.3	22.3	15.2	30.3	7.2	1.9	24.5
Oregon.....	158	19	1.3	9.2	1.0	2.3	7.9	27.5	13.9	35.8	5.6	1.9	17.7
California.....	1,436	330	35.4	298.6	24.1	48.6	182.7	1,361.0	678.3	1,700.8	338.5	32.9	1,253.6
Alaska.....	115	34	2.0	27.6	1.8	4.5	22.1	173.3	164.4	173.5	164.2	1.3	52.6
Hawaii.....	13	3	0.1	1.6	0.1	0.3	1.4	5.4	2.4	5.9	1.9	0.3	4.9

Note: Detail may not add to totals due to independent rounding.

(Z) Less than one-half the unit of measure specified.
Data for District of Columbia included with Delaware.

Appendix

EXPLANATION OF TERMS

(For a more complete discussion of these terms and the method of compiling the Census of Mineral Industries, see the Introduction to the 1963 Census of Mineral Industries, Volume I.)

All Employees--All full-time and part-time employees on the payrolls of operating mineral establishments for any part of the pay period ended nearest the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of the corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The number of production workers is the average of those for mid-month payroll periods of March, May, August, and November. The "all employee" number is the average number of production workers plus the number of other employees in mid-March.

Payroll--This item includes all forms of compensation such as salaries, wages, commissions, dismissal pay, all bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' Social Security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of these establishments, if a corporation; it excludes payments to the proprietor or partners, if an unincorporated concern. Respondents were told that in reporting they could follow the definition of payroll used for calculating the Federal withholding tax.

Production, Development, and Exploration Worker Man-Hours--The total man-hours figures represent all man-hours that production, development, and exploration workers worked both on active days during which there was production or development work, and inactive days, when only watchmen, inspectors, repairmen, and other maintenance men were on duty. They include all man-hours worked or paid for at the mining operations, except hours paid for vacations, holidays, or sick leave, when the employee was not at the establishment. Included are actual overtime hours, not straight-time equivalent hours. Man-hours of working proprietors or partners are excluded.

Cost of Supplies, etc., and Purchased Machinery--The 1967 census report forms requested information on supplies and purchased machinery installed; fuels and electric energy used; and contract work done by others for each establishment. These items included charges to both the current and capital accounts. The figures reported were to include items used during 1967 whether purchased, withdrawn from inventories, or received from other establishments of the company. For selected supplies and fuels and for electric energy, both quantity and cost data were requested. The cost data refer to direct charges actually paid or payable (after discounts) for items used during the year. Freight charges and other direct charges incurred by the establishment in acquiring the items are included. Where the company's records did not show actual amounts used, they were asked to approximate use by adding purchases (or receipts) during the year to opening inventory and subtracting closing inventory.

Separate figures were obtained for (a) selected supplies, minerals received for preparation, and purchased machinery installed; (b) electric energy purchased; (c) purchased fuels used for heat, power, or the generation of electricity; (d) contract work done by others; and (e) products bought and resold in the same condition. Supplies and equipment used in mine development, plant expansion, and capitalized repairs, which are chargeable to fixed assets accounts, were included, as were supplies furnished without charge to contractors for use at the mining operation and supplies sold to employees for use at the establishment. No data on such costs as advertising, insurance, telephone, and research and consulting services of other establishments; or on overhead costs, such as depreciation charges, rent, interest, and royalties were included in this item.

Specific Supplies Used and Minerals Prepared--In addition to the total cost of supplies, etc., and purchased machinery which every establishment was required to report, information was also collected on the consumption of major supplies used in mining. These supplies inquiries were restricted to those supplies which were important parts of the cost of production, exploration, and development of a particular industry and for which cost information was available from the firms' records. Information regarding the specific supplies consumed is shown in table 4.

On report forms for almost all mineral industries, except the contract services industries, a uniform inquiry was included on minerals prepared at the reported establish-

ments. Figures were obtained on minerals prepared from three sources: (1) Crude minerals mined at the establishment (quantity); (2) crude minerals received from other establishments of the company or purchased from others (quantity and cost); and (3) crude minerals received for preparation on a custom or toll basis (quantity and estimated value).

Establishments consuming less than a specified amount (usually \$5,000) were not requested to report the cost of a supply separately. Also, the cost of supplies for small establishments for which administrative records were used were imputed as "not specified by kind." (See text for importance of administrative records in the industry.)

Capital Expenditures--In the 1967 census, mining companies were asked to report expenditures made during the year for development and exploration of mineral properties, for new construction, and for machinery purchased at their operations that was chargeable to fixed assets accounts of the mineral establishment and were of a type for which depreciation, depletion, or Office of Minerals Exploration accounts were ordinarily maintained. Capital expenditures during 1967 were to be determined as "additions completed during the year plus construction in progress at the end of the year minus construction in progress at the beginning of the year." Reported capital expenditures were to include work done on contract as well as by the mine forces. Expenditures for machinery and equipment were to include those made for replacement purposes, as well as those for additions to capacity. Excluded from such expenditures totals are costs of maintenance and repairs charged as current operating expense. Also excluded are expenditures for land and mineral rights.

Wherever applicable, separate figures were provided for expenditures for (a) development and exploration of mineral property, (b) preparation plant construction and other construction, (c) new machinery and equipment, and (d) used plant and used equipment acquired from others.

Value of Shipments--The amounts under value of shipments are the values, f.o.b., mine, well, or plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts such as receipts for contract work performed for others, installation and repair, sales of scrap, and sale of products bought and resold without further processing. Included are all items produced by

the establishments and sold, transferred to other plants of the same company, or shipped on consignment.

In the case of multiunit companies, the firm was requested to report the value of products transferred to other establishments of the same company at full economic or commercial value, i.e., include not only the direct costs of production but also a reasonable proportion of "all other costs" (including company overhead) and profit.

Individual Products--In the 1967 Census of Mineral Industries, information on output of about 225 individual mineral product items was collected.

In general, the 1967 and 1963 minerals censuses figures were confined to separate totals for each crude and each prepared mineral. Where significant, separate shipments figures were also obtained for crude minerals going to preparation plants and those going to consumers.

Figures were collected on both quantity and value of shipments. Shipments include commercial shipments and transfers of products to other operations of the same company. For products which are used to a significant extent within the same establishment for power or heat, and for minerals mined and prepared in the same establishment, total production or separate data on production for such uses were collected. Typically, production was also collected for products for which there are usually significant differences between total production and total shipments as a result of stock changes.

For service industries, the amount received or due for services performed during 1967 was collected as a measure of output. For mine operators who also perform services, the amount received for such services was added to the total value of products shipped to determine total value of shipments and receipts for each establishment.

Table 3 of the individual industry reports provides the national and regional total shipments from all industries for each of the products primary to the industries covered in the report.

Shipments and Production--Shipments figures include all products physically shipped from the establishment during 1967, including material withdrawn from stockpiles and products shipped on consignment, whether or not sold in 1967. Prepared material or concentrates include prep-

aration from ores mined at the same establishment, purchased, received from other operations of the same company, or received for milling on a custom or toll basis. For products transferred to other establishments of the same company or prepared on a custom basis, the company was requested to include, in addition to direct costs of production, a reasonable proportion of company overhead and profits.

For industry and industry group totals, some duplication is introduced by the inclusion of materials transferred from one establishment to another for mineral preparation. Wherever value of shipments is shown without further specification, it represents gross shipments.

For years prior to 1954, data on shipments were not collected. Instead, the report forms requested data on the quantity and value of

production. In general, the data for these years were edited to represent net production, excluding duplications due to mining and later preparing the same material in the same industry.

Value Added in Mining--Since the 1954 census, this measure has been computed by subtracting the cost of supplies, etc., and purchased machinery from the sum of value of shipments and receipts and capital expenditures. This statistic avoids the duplication in value of shipments which results from the use of products of some establishments as supplies, energy sources, or materials by others. Moreover, it provides a measure of value added not only in mineral production, but also in the development of mineral properties. For these reasons, it is considered to be the best value measure for comparing the relative economic importance of mining among industries and geographic areas.

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CURRENT INDUSTRIAL REPORTS

Current Industrial Reports present data for industries in the following broad categories:

Textile mill products • Apparel and leather • Chemicals, rubber, and plastics • Machinery and equipment • Primary metals • Intermediate metal products • Processed foods • Lumber, furniture, and paper products • Stone, clay, and glass products.

A continuing series of more than 100 monthly, quarterly, and annual reports on industrial production, inventories, and orders. Issued by the Bureau of the Census, this series presents data for 5,000 products representing 40 percent of all manufacturing in the United States.

For information on individual product groups covered, frequency of reports, and subscription prices, write to the Bureau of the Census, Washington, D. C. 20233.

U. S. DEPARTMENT OF COMMERCE
Bureau of the Census



1967 Census of MINERAL INDUSTRIES

SUMMARY SERIES



U.S. DEPARTMENT OF COMMERCE / Bureau of the Census

preliminary report

MIC67(P)-3

Water Use in the Mineral Industries: 1968

The total quantity of water used (including water recirculated or reused) by establishments in the mineral industries in the United States in 1968 was estimated at 3.7 trillion gallons, about 70 percent greater than the 2.2 trillion gallons used in 1954, the most recent year for which corresponding Census data are available. The 1968 total, when compared with the 1.4 trillion gallons of water intake representing water purchased from utilities or obtained from the company's private water supply source (including mine water), indicates that each gallon of water introduced into minerals producing activities was reused or recirculated 2.6 times before being discharged.

Of the 1.4 trillion gallons of water intake, 1.2 trillion gallons were discharged after being used, recirculated, or reused in minerals activities. Thus, for every 100 gallons of water intake in 1968, about 86 gallons were discharged, representing a slight increase over the 1954 discharge ratio of 83 gallons per each 100 gallons intake. Finally, of the 1.4 trillion gallons discharged in 1968, including mine water drained and discharged, almost 0.3 trillion gallons were treated prior to discharge, or 22 gallons of water treated per 100 gallons discharged. Corresponding data on water treated in 1954 are not available.

Establishments in Major Groups 10, Metal Mining, and 14, Nonmetallic Minerals, Except Fuels, were the largest users of water for mineral mining and processing purposes with an aggregate usage in 1968 of close to 1.0 trillion gallons, or 70 percent of total water intake in the mining sector. In 1954, these two industry groups also accounted for 70 percent of the total water intake in the minerals industries.

The 1968 data in this report are preliminary and subject to revision; they are based on information obtained in a special survey conducted on

Census Form MC-D-13B, Water Use in the Mineral Industries: 1968, copies of which were sent to those mineral establishments that indicated in the 1967 Census of Mineral Industries consumption of at least 20 million gallons of water during 1967. All such establishments were subsequently asked to report detailed data on water consumed for 1968 on Form MC-D-13B. The number of establishments reporting water consumption of 20 million gallons or more in 1968 totaled over 1,700 and selected data reported by these plants are shown in the accompanying table. For 1954, the coverage included all establishments using 10 million gallons or more per year. It is estimated that the data on water as shown in this report represent approximately 98 percent of all water consumed by mineral establishments.

In addition to the data shown for water used, discharged, and treated, information was also obtained on water intake by kind (fresh or brackish) and source (public or company system); mine water used; water intake and water recirculated or reused by purpose (process, cooling, and condensing, oil and gas field flooding, and other uses); water discharged by point of discharge (public sewer system, company disposal or storage system); mine water drained and discharged; and water treated by method of treatment. Detailed statistics on these characteristics of water use, disposal, and treatment classified by industry and by State, will be published at a later date. The 1954 data in this report were previously published in the 1954 Census of Mineral Industries publication, "Energy, Water, and Selected Supplies," Series MI-F.

The Bureau of the Census is prohibited by law from publishing any statistics that disclose information reported by individual companies. In suppressing figures to avoid disclosing individual company information, data for major industry

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groups (2-digit SIC) take precedence over industry group (3-digit SIC) totals which, in turn, take precedence over individual (4-digit SIC) industries. In presenting the data shown in the accompanying table, this procedure was followed with respect to all levels of classification.

For purposes of this publication, *Water Intake* is defined as water supplied to a minerals establishment by a public water system or by a water system owned by the establishment. Mine water used to produce or process minerals is also included. *Gross Water Used* represents the estimated quantity of water that would have been required if no water had been recirculated or reused. For example, if total water intake was 400 million gallons and of this 400 million gallons, 100 million gallons were used twice for cooling purposes and once for washing minerals products, the total water required would be 300 million gallons plus the 300 million gallons not recirculated, for a total of 600 million gallons (less consumption and evaporation loss). *Water Discharged* comprises all water brought to the ultimate discharge point and then discharged. This excludes water held in ponds, lagoons, or settling basins for reuse or treatment and also excludes water lost by evaporation. Mine water drained and discharged (but not used to produce or process minerals) was reported separately. *Water Treated* represents all water treated for control of biological growth; removal of suspended or dissolved solids; corrosion control; or for any other purpose, either by simple or complex methods of treatment.

The census of mineral industries covers each mining establishment of firms in the United States with one or more paid employees. Firms which operate more than one establishment were required to file a separate report for each location.

Companies which engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation and the activities were of significant size.

For oil and gas field operations and contract services, reports were required for units somewhat different from the "establishment" reporting unit used for other types of mining. Every concern which operated oil and gas wells, drilled such wells for its own account or for others, performed exploration work for oil or gas, or performed oil and gas field services for others during any part of calendar year 1967 was required to submit a separate report for each State or for each district within Texas, Louisiana, New Mexico, and California (however, information on employment, oil and gas production, and capital expenditures was requested by county). Further, concerns which supplied contract services for others were required to submit a separate report for each State. (In this instance also, information on employment, receipts for services, and capital expenditures was requested by county.)

Establishments are classified in mining industries in accordance with industry definitions described in the 1967 edition of the Standard Industrial Classification (SIC) manual. The 1967 Census of Mineral Industries is the 16th census of mineral establishments in the United States. For 1967, it was conducted jointly with the censuses of manufactures, retail trade, wholesale trade, and selected services under authority of Title 13 of the United States Code. Title 13 specified that a census of mineral industries be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7."

Water Intake, Gross Water Used, and Water Discharged by Industry Group and Selected Industries: 1968 and 1954

(Billion gallons)

Code	Industry group and industry	1968								
		Water intake				Gross water used, including water recirculated or reused	Water discharged			
		Total intake			Treated prior to use ¹		Total discharged			Treated prior to discharge ¹
		Total intake	Mine water used	Water (except mine water)			Total discharged	Mine water drained and discharged	Other water including mine water used	
	All industries, total.....	1,403	324	1,079	284	3,693	1,363	153	1,210	294
10	METAL MINING.....	495	26	468	25	1,201	500	67	433	70
1011	Iron ores.....	340	10	330	11	659	344	17	327	29
1021	Copper ores.....	105	7	98	11	447	68	3	65	12
1031	Lead and zinc ores.....	17	6	12	(Z)	21	54	40	14	13
104	Gold and silver ores.....	6	1	5	(Z)	11	7	1	6	1
106	Ferroalloy ores, except vanadium..	5	1	4	(Z)	13	7	3	4	4
109	Miscellaneous metal ores.....	21	2	19	3	51	19	2	17	12
1094	Uranium ores.....	7	2	5	2	10	7	1	6	3
1093	Titanium ores.....	10	1	10	(Z)	36	8	-	8	6
1099	Metallic ores, n. e. c.....	3	-	3	(Z)	4	4	1	3	3
11	ANTHRACITE MINING.....	10	8	2	2	13	10	(Z)	10	5
12	BITUMINOUS COAL AND LIGNITE MINING.....	25	9	16	5	102	60	40	20	7
13	OIL AND GAS EXTRACTION.....	390	130	260	159	1,467	365	-	365	68
1311	Crude petroleum and natural gas ²	269	³ 130	139	138	320	263	-	⁴ 263	64
1321	Natural gas liquids.....	120	-	120	21	1,146	99	-	99	3
138	Oil and gas field services.....	2	-	2	1	2	3	-	3	(Z)
14	NONMETALLIC MINERALS, EXCEPT FUELS.....	483	151	332	93	910	427	45	382	145
142	Crushed and broken stone.....	50	10	40	(Z)	58	72	25	47	18
1422	Crushed and broken limestone.....	43	9	33	(Z)	49	64	24	40	13
1423	Crushed and broken granite.....	3	1	2	(Z)	4	3	(Z)	3	1
1429	Crushed and broken stone, n. e. c.....	5	(Z)	5	(Z)	5	5	1	4	4
144	Sand and gravel.....	127	25	102	15	178	131	13	118	36
1442	Construction sand and gravel.....	105	20	85	8	135	109	10	100	27
1446	Industrial sand.....	22	5	18	7	43	22	3	19	9
145	Clay and related minerals.....	11	(Z)	11	1	13	12	2	10	7
1455	Kaolin and ball clay.....	6	(Z)	6	(Z)	6	8	2	5	5
1456	Feldspar.....	3	(Z)	3	-	3	3	-	3	2
147	Chemical and fertilizer minerals...	289	116	173	76	652	210	5	205	84
1474	Potash, soda, and borate minerals....	9	(Z)	8	2	57	7	-	7	-
1475	Phosphate rock.....	247	115	133	53	555	174	5	169	66
1476	Rock salt.....	6	-	6	1	10	6	(Z)	6	(Z)
1477	Sulfur.....	24	-	24	21	26	22	-	22	17
149	Miscellaneous nonmetallic minerals.	6	(Z)	6	(Z)	9	2	(Z)	2	1
1493	Mica.....	5	(Z)	5	-	5	1	-	1	(Z)

See footnotes at end of table.

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1967 CENSUS OF MINERAL INDUSTRIES

Water Intake, Gross Water Used, and Water Discharged by Industry Group and Selected Industries: 1968 and 1954—Continued

(Billion gallons)

Code	Industry group and industry	1954						
		Water intake			Gross water used, including water recirculated or reused	Water discharged		
		Total	Mine water used	Water (except mine water)		Total	Mine water drained and discharged	Other water including mine water used
	All industries, total.....	722	150	572	2,170	985	389	596
10	METAL MINING.....	138	26	112	241	199	107	92
1011	Iron ores.....	27	6	21	60	67	51	16
1021	Copper ores.....	59	2	57	83	60	11	49
1031	Lead and zinc ores.....	22	10	13	38	47	36	11
104	Gold and silver ores.....	17	7	10	25	13	4	9
106	Ferroalloy ores, except vanadium...	8	1	7	14	8	3	5
109	Miscellaneous metal ores.....	4	(Z)	4	22	2	(Z)	2
1094	Uranium ores.....	2	(Z)	2	2	2	(Z)	2
1093	Titanium ores.....	-	-	-	-	-	-	-
1099	Metallic ores, n.e.c.....	3	-	3	20	1	(Z)	1
11	ANTHRACITE MINING.....	27	13	15	89	96	85	11
12	BITUMINOUS COAL AND LIGNITE MINING.....	29	7	22	116	161	147	14
13	OIL AND GAS EXTRACTION.....	158	-	158	1,138	225	-	225
1311	Crude petroleum and natural gas ²	82	-	82	⁵ 82	180	-	180
1321	Natural gas liquids.....	67	-	67	1,046	42	-	42
138	Oil and gas field services.....	9	-	9	⁵ 9	3	-	3
14	NONMETALLIC MINERALS, EXCEPT FUELS.....	369	104	265	587	303	49	254
142	Crushed and broken stone.....	60	20	40	66	78	39	38
1422	Crushed and broken limestone.....	54	19	35	58	71	37	34
1423	Crushed and broken granite.....	3	1	2	4	3	1	2
1429	Crushed and broken stone, n.e.c.....	3	(Z)	3	4	4	2	2
144	Sand and gravel.....	187	58	129	261	124	(Z)	124
1442	Construction sand and gravel.....	179	56	123	248	118	(Z)	118
1446	Industrial sand.....	8	1	6	13	6	(Z)	6
145	Clay and related minerals.....	7	1	5	9	8	3	5
1455	Kaolin and ball clay.....	4	(Z)	4	4	4	(Z)	4
1456	Feldspar.....	1	(Z)	1	1	1	(Z)	1
147	Chemical and fertilizer minerals...	113	(D)	(D)	247	90	6	84
1474	Potash, soda, and borate minerals....	11	(D)	(D)	26	6	(Z)	6
1475	Phosphate rock.....	63	23	40	138	41	-	41
1476	Rock salt.....	3	(D)	(D)	3	3	(Z)	3
1477	Sulfur.....	16	-	16	17	15	-	15
149	Miscellaneous nonmetallic minerals.	2	(D)	(D)	4	2	1	2
1493	Mica.....	1	(Z)	1	2	1	(Z)	1

Note: Detailed figures may not add to totals because of independent rounding. The figures shown for industry groups include data for all component industries whether or not separate figures are shown for the individual industries in the group.

- Represents zero. (D) Withheld to avoid disclosing figures of individual companies. (Z) Less than 500 million gallons.

¹Included in total.

²The 1968 figures for this industry include about 200 billion gallons of water used for flooding in oil and gas fields. The corresponding total for 1954 was 47 billion gallons.

³Represents water produced with oil and subsequently used in crude petroleum production.

⁴Includes 46 billion gallons of water produced with oil and subsequently discharged.

⁵Estimated to be equivalent to total water intake.

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1967 Census of
MINERAL INDUSTRIES

INDUSTRY SERIES

U.S. DEPARTMENT OF COMMERCE/Bureau of the Census

preliminary report

MIC67(P)-10A-1

Iron ores

SIC Code 1011

The Iron Ores Industry represents establishments primarily engaged in mining, beneficiating, or otherwise preparing iron ores and manganiferous ores valued chiefly for their iron content. The Industry includes the production of pellets and other agglomerates in association with mining and beneficiating activities, as well as at separately operated agglomeration plants. Blast furnaces primarily engaged in producing pig iron from iron ores are classified as manufacturing plants in industry 3312, Blast Furnaces and Steel Mills. The production of agglomerates in conjunction with blast furnace operations is also classified as manufacturing.

This report includes figures for administrative offices, warehouses, storage facilities, and other auxiliary units which service mining establishments. The classification of establishments

for which data are tabulated in this report is based upon the definitions contained in the 1967 edition of the Standard Industrial Classification (SIC) Manual.

In 1967, the value of products shipped and miscellaneous receipts of establishments classified in the Iron Ores Industry amounted to \$954.4 million, an increase of 25.2 percent compared with 1963. Value added in mining amounted to \$662.1 million in 1967, an increase of 20.5 percent from 1963. Average employment in the industry showed a decrease of 1.7 percent from 1963 to a total of 22.7 thousand employees in 1967.

For an explanation of the terms used in the tables, see appendix at the end of this report.

TABLE 1. General Statistics: 1967 and Earlier Years

(See appendix, "Explanation of Terms")

Year	Establishments		All employees		Production, development, and exploration workers			Value added in mining (million dollars)	Cost of supplies, etc., and purchased machinery installed (million dollars)	Value of shipments and receipts (million dollars)	Capital expendi- tures (million dollars)
	Total	With 20 employ- ees or more	Number	Payroll	Number	Man-hours	Wages				
	(number)	(number)	(1,000)	(million dollars)	(1,000)	(millions)	(million dollars)				
	INDUSTRY 1011.--IRON ORES										
1967.....	147	79	22.7	186.1	18.0	36.3	133.9	662.1	401.0	954.4	108.7
1963.....	208	101	23.1	161.6	18.1	34.5	112.8	549.3	309.6	762.2	96.6
1958.....	243	128	30.1	169.0	22.5	39.9	116.3	487.7	219.4	664.5	42.6
1954.....	225	135	34.2	156.9	28.2	53.3	119.7	435.7	196.5	547.2	85.0
1939.....	¹ 196	(NA)	22.7	33.3	20.4	38.5	27.4	133.4	17.5	² 150.9	(NA)
1935.....	¹ 199	(NA)	³ 16.2	³ 17.6	14.9	(NA)	14.6	65.9	10.9	² 76.7	(NA)
1929.....	186	(NA)	31.1	47.4	28.6	(NA)	41.0	167.1	34.2	² 197.3	(NA)
1919.....	308	(NA)	49.4	83.7	46.3	(NA)	76.7	177.4	40.8	218.2	(NA)
1909 ⁴	320	(NA)	50.6	33.5	47.7	(NA)	30.0	89.6	20.3	109.9	(NA)
1902.....	¹ 562	(NA)	41.6	23.8	⁵ 39.1	(NA)	21.7	55.7	9.8	² 65.5	(NA)
1889.....	¹ 685	(NA)	38.2	14.4	⁶ 36.3	(NA)	13.0	26.8	6.6	² 33.4	(NA)
1880.....	805	(NA)	31.7	9.5	⁶ 30.4	(NA)	(NA)	20.3	2.9	² 23.2	(NA)
1870.....	420	(NA)	15.0	6.8	(NA)	(NA)	(NA)	11.9	1.3	² 13.2	(NA)
1860.....	157	(NA)	3.2	0.9	(NA)	(NA)	(NA)	1.9	0.3	² 2.2	(NA)
1850.....	197	(NA)	2.2	0.6	(NA)	(NA)	(NA)	1.2	0.1	² 1.2	(NA)

(NA) Not available.

¹Represents number of mines.²Represents value of net shipment and receipts.³Excludes figures for employees at central offices maintained independently of mine offices.⁴Excludes data for two producing manganiferous iron ore establishments.⁵Figures for average employment were converted to a 300-day basis for establishments which operated for a shorter period.⁶Represents the average number employed during the time the mines were active.

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TABLE 2. General Statistics, by Geographic Areas: 1967 and 1963

(See appendix, "Explanation of Terms")

(See appendix, "Explanation of Terms.")

Geographic area	1967											1963	
	Establishments		All employees		Production, development, and exploration workers			Value added in mining (million dollars)	Cost of supplies, etc., and purchased machinery installed (million dollars)	Value of shipments and receipts (million dollars)	Capital expenditures (million dollars)	All employees (1,000)	Value added in mining (million dollars)
	Total	With 20 employees or more	Number	Payroll	Number	Man-hours	Wages						
	(number)	(number)	(1,000)	(million dollars)	(1,000)	(millions)	(million dollars)						
INDUSTRY 1011.--IRON ORES													
United States, total.	147	79	22.7	186.1	18.0	36.3	133.9	662.1	401.0	954.4	108.7	23.1	549.3
Northeast and South.....	40	12	3.6	26.0	3.1	6.0	21.2	51.7	25.2	74.3	2.6	4.8	72.3
North Central.....	83	59	16.8	141.1	13.1	26.6	98.0	545.6	343.8	786.4	102.9	16.7	431.8
Minnesota.....	51	37	10.8	84.2	8.6	17.0	61.7	392.9	238.9	554.3	77.5	11.2	348.1
West.....	24	8	2.3	19.0	1.8	3.6	14.5	64.8	32.1	93.7	3.1	1.6	45.2

Note: Detail may not add to totals because of independent rounding.

TABLE 3. Production and Quantity and Value of Shipments by All Producers by Geographic Areas: 1967 and 1963

(Includes quantity and value of products reported not only by establishments classified in this industry, but also by establishments classified in other industries, and shipping these products as "secondary" products. See appendix under "Individual Products")

Product code	Product and geographic area	1967			1963		
		Production (million long tons)	Shipments, including interplant transfers		Production (million long tons)	Shipments, including interplant transfers	
			Quantity (million long tons)	Value (million dollars)		Quantity (million long tons)	Value (million dollars)
	UNITED STATES						
1011- --	IRON ORES NET PRODUCTION AND SHIPMENTS, TOTAL ^{1 2}	84.5	82.3	856.0	73.8	74.5	706.5
10111 --	Crude iron ore, total.....	177.4	(D)	(D)	152.5	41.1	134.3
10111 21	Direct-shipping ore.....	16.6	16.0	112.7	12.4	13.6	91.9
10111 23	Beneficiating-grade ore.....	160.9	(D)	(D)	140.1	27.5	42.4
10112 --	Treated iron ores (including washed material).....	68.7	(D)	(D)	64.1	(D)	(D)
10112 03	For consumption.....	23.3	22.2	170.3	34.8	34.3	260.6
10112 05	For agglomeration.....	45.4	(D)	(D)	29.3	(D)	(D)
	Agglomerates.....	44.6	44.1	573.6	26.6	26.7	354.0
10112 06	Pellets.....	42.0	41.5	542.9	26.6	26.7	354.0
10112 08	Sinter, briquets, and other.....	2.6	2.6	30.7			
	NORTH CENTRAL						
1011- --	IRON ORES NET PRODUCTION AND SHIPMENTS, TOTAL ^{1 2}	66.6	64.9	692.0	57.6	58.3	548.9
10111 --	Crude iron ore, total.....	147.0	(D)	(D)	120.8	38.7	118.7
10111 21	Direct-shipping ore.....	14.7	14.1	98.6	10.2	11.3	76.9
10111 23	Beneficiating-grade ore.....	132.3	(D)	(D)	110.6	27.3	41.8
	Treated iron ores (including washed material).....	53.4	(D)	(D)	50.4	(D)	(D)
10112 03	For consumption.....	15.5	14.9	115.9	26.3	25.8	196.2
10112 05	For agglomeration.....	37.9	(D)	(D)	24.0	(D)	(D)
10112 06	Agglomerates.....	36.3	35.9	477.5	21.1	21.1	275.9
10112 08							

Note: Detail may not add to totals due to independent rounding.

(D) Withheld to avoid disclosure of figures for individual companies.

¹Represents the sum of direct-shipping iron ore, treated iron ores for consumption, and iron agglomerates.²Figures for net production of manganese ore included with net production of iron ore.

TABLE 4. Selected Supplies, Minerals Received for Preparation, and Purchased Machinery Installed: 1967 and 1963

(See appendix, "Explanation of Terms")

Code	Supplies	Unit of measure	1967		1963		
			Quantity	Cost (million dollars)	Quantity	Cost (million dollars)	
	INDUSTRY 1011.--IRON ORES						
	Selected supplies, minerals received for preparation, and purchased machinery installed, total.....	.....	(X)	297.4	(X)	212.9
	Ores and other iron and manganese-bearing materials for prep- aration:						
100093	Crude ores received for preparation.....	Million long tons.	37.0	91.9	30.1	52.2	
100095	Prepared ores received for agglomeration.....	do.....		2.1	12.4		
100093	Crude ores produced and prepared at same establishment.....	do.....		(X)	112.4	(X)	
100095	Prepared ores produced and agglomerated at same establishment.	do.....		(X)	28.3	(X)	
353011	Purchased machinery installed.....	.....	(X)	49.0	(X)	27.9
	Supplies used:						
289211	Explosive materials, except ammonium nitrate.....	Million pounds....	79.2	10.5	89.2	9.9	
289212	Ammonium nitrate.....	do.....	67.6	3.9			
289214	Blasting accessories.....	do.....	(X)	1.7			(X)	(2)
331201	Steel mill shapes and forms.....	1,000 short tons..	(NA)	34.1		87.1	21.4
241100	Round or hewn wood products and stumpage.....	do.....	(X)	0.7	(X)	287.3	
970099	All other supplies.....	do.....	(X)	104.4			
976000	Selected supplies, materials received for preparation, and pur- chased machinery installed, n.s.k. ³.....	.....	(X)	1.3	(X)	1.8

Note: Detail may not add to the total due to independent rounding.

(NA) Not available. n.s.k. Not specified by kind. (X) Not applicable.

¹Includes the cost of products bought and resold without further processing.²Included with all other supplies.³This item represents the total cost of material for establishments that did not report detailed supplies data. For 1967 this also includes estimates for establishments that were not mailed report forms.

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SCOPE AND COVERAGE

This report is one of a series presenting preliminary information on industries and products from the 1967 Census of Mineral Industries. The data will be superseded in a final report which in turn will be included in Volume 1, Summary and Industry Statistics, 1967 Census of Mineral Industries. That report will include a comprehensive discussion of the concepts and definitions used in the census.

The census of mineral industries covers each mining establishment of firms in the United States with one or more paid employees. Firms which operate more than one establishment were required to file a separate report for each location. Companies which engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation and the activities were of significant size.

For oil and gas field operation and contract services, reports were required for units somewhat different from the "establishment" reporting unit used for other types of mining. Every concern which operated oil and gas wells, drilled such wells for its own account or for others, performed exploration work for oil or gas, or performed oil and gas field services for others during any part of calendar year 1967 was required to submit a separate report for each State or for each district within Texas, Louisiana, New Mexico, and California (however, information on employment, oil and gas production, and capital expenditures was requested by county). Further, concerns which supplied contract services for others were required to submit a separate report for each State. (In this instance also, information on employment, receipts for services, and capital expenditures was requested by county.)

In the 1967 census, for the first time, approximately 10,000 single-unit establishments with 1 to 4 employees were excused from filing reports. Under special arrangements which safeguarded the confidentiality of both tax and census records, limited data on payrolls, sales, and industry classification from the administrative records of the Social Security Administration and the Internal Revenue Service were made available to the Census Bureau for use in the 1967 censuses of business, manufactures, and mineral industries. Estimates for data other than payrolls and sales for these small establishments were constructed from industry averages. The effect on industry aggregates is slight in most industries. For mining as a whole, they account for less than 1 percent of value added. In industry 1011, these small establishments accounted for less than 1 percent of value added.

In the 1967 Census of Mineral Industries, data for all single-unit establishments without paid employees were excluded because of the difficulty in

developing a mailing list for these establishments. The exclusion of these establishments has had only a slight effect on industry aggregates for most industries. Data for establishments without employees were included in the 1963, 1958, and 1954 censuses if these establishments reported more than \$500 in one of the following data items: (1) value of shipments and receipts, (2) cost of supplies and purchased machinery, or (3) capital expenditures. In the 1963 census, establishments without paid employees for mining as a whole accounted for approximately 3 percent of value added, while they accounted for less than 1 percent of value added for industry 1011.

As in earlier censuses, a number of small establishments may have been misclassified as to industry. However, such possible misclassifications have no significant effect on the statistics other than the number of establishments. As indicated above, report forms were not mailed to very small establishments (less than 5 employees). The industry classifications for these establishments were assigned on the basis of brief descriptions of the general activity of the establishment. Where the description is incomplete or there are relatively fine lines of demarcation between industries or between mining and nonmining activity, the code assigned to an establishment could differ from that which would have been assigned on the basis of more complete product information. Therefore, the total establishment count should be reviewed as an approximation rather than a precise measurement. The counts of establishments with 20 or more employees are far more reliable than the total number of establishments.

More detailed figures for this industry will appear in the final census reports. Final reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each mineral industry and for each State are being issued. Final industry reports and final area reports will be published during the spring and fall of 1970. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C. 20233.

The 1967 Census of Mineral Industries is the 16th census of mineral establishments in the United States. For 1967, it was conducted jointly with the censuses of manufactures, retail trade, wholesale trade, and selected services under authority of Title 13 of the United States Code. Title 13 specified that a census of mineral industries be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7."

Appendix

EXPLANATION OF TERMS

(For a more complete discussion of these terms and the method of compiling the Census of Mineral Industries, see the Introduction to the 1963 Census of Mineral Industries, Volume I.)

All Employees--All full-time and part-time employees on the payrolls of operating mineral establishments for any part of the pay period ended nearest the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of the corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The number of production workers is the average of those for mid-month payroll periods of March, May, August, and November. The "all employee" number is the average number of production workers plus the number of other employees in mid-March.

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Separate figures were obtained for (a) selected supplies, minerals received for preparation, and purchased machinery installed; (b) electric energy purchased; (c) purchased fuels used for heat, power, or the generation of electricity; (d) contract work done by others; and (e) products bought and resold in the same condition. Supplies and equipment used in mine development, plant expansion, and capitalized repairs, which are chargeable to fixed assets accounts, were included, as were supplies furnished without charge to contractors for use at the mining operation and supplies sold to employees for use at the establishment. No data on such costs as advertising, insurance, telephone, and research and consulting services of other establishments; or on overhead costs, such as depreciation charges, rent, interest, and royalties were included in this item.

Specific Supplies Used and Minerals Prepared--In addition to the total cost of supplies, etc., and purchased machinery which every establishment was required to report, information was also collected on the consumption of major supplies used in mining. These supplies inquiries were restricted to those supplies which were important parts of the cost of production, exploration, and development of a particular industry and for which cost information was available from the firms' records. Information regarding the specific supplies consumed is shown in table 4.

On report forms for almost all mineral industries, except the contract services industries, a uniform inquiry was included on minerals prepared at the reported establish-

ments. Figures were obtained on minerals prepared from three sources: (1) Crude minerals mined at the establishment (quantity); (2) crude minerals received from other establishments of the company or purchased from others (quantity and cost); and (3) crude minerals received for preparation on a custom or toll basis (quantity and estimated value).

Establishments consuming less than a specified amount (usually \$5,000) were not requested to report the cost of a supply separately. Also, the cost of supplies for small establishments for which administrative records were used were imputed as "not specified by kind." (See text for importance of administrative records in the industry.)

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the establishments and sold, transferred to other plants of the same company, or shipped on consignment.

In the case of multiunit companies, the firm was requested to report the value of products transferred to other establishments of the same company at full economic or commercial value, i.e., include not only the direct costs of production but also a reasonable proportion of "all other costs" (including company overhead) and profit.

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In general, the 1967 and 1963 minerals censuses figures were confined to separate totals for each crude and each prepared mineral. Where significant, separate shipments figures were also obtained for crude minerals going to preparation plants and those going to consumers.

Figures were collected on both quantity and value of shipments. Shipments include commercial shipments and transfers of products to other operations of the same company. For products which are used to a significant extent within the same establishment for power or heat, and for minerals mined and prepared in the same establishment, total production or separate data on production for such uses were collected. Typically, production was also collected for products for which there are usually significant differences between total production and total shipments as a result of stock changes.

For service industries, the amount received or due for services performed during 1967 was collected as a measure of output. For mine operators who also perform services, the amount received for such services was added to the total value of products shipped to determine total value of shipments and receipts for each establishment.

Table 3 of the individual industry reports provides the national and regional total shipments from all industries for each of the products primary to the industries covered in the report.

Shipments and Production--Shipments figures include all products physically shipped from the establishment during 1967, including material withdrawn from stockpiles and products shipped on consignment, whether or not sold in 1967. Prepared material or concentrates include prep-

aration from ores mined at the same establishment, purchased, received from other operations of the same company, or received for milling on a custom or toll basis. For products transferred to other establishments of the same company or prepared on a custom basis, the company was requested to include, in addition to direct costs of production, a reasonable proportion of company overhead and profits.

For industry and industry group totals, some duplication is introduced by the inclusion of materials transferred from one establishment to another for mineral preparation. Wherever value of shipments is shown without further specification, it represents gross shipments.

For years prior to 1954, data on shipments were not collected. Instead, the report forms requested data on the quantity and value of

production. In general, the data for these years were edited to represent net production, excluding duplications due to mining and later preparing the same material in the same industry.

Value Added in Mining--Since the 1954 census, this measure has been computed by subtracting the cost of supplies, etc., and purchased machinery from the sum of value of shipments and receipts and capital expenditures. This statistic avoids the duplication in value of shipments which results from the use of products of some establishments as supplies, energy sources, or materials by others. Moreover, it provides a measure of value added not only in mineral production, but also in the development of mineral properties. For these reasons, it is considered to be the best value measure for comparing the relative economic importance of mining among industries and geographic areas.

U.S. DEPARTMENT OF COMMERCE
Bureau of the Census
Washington, D.C. 20233

OFFICIAL BUSINESS



POSTAGE AND FEES PAID
U.S. DEPARTMENT OF COMMERCE

1967 Census of
MINERAL INDUSTRIES

INDUSTRY SERIES

U.S. DEPARTMENT OF COMMERCE/Bureau of the Census

preliminary report

MIC67(P)-10B-1

Copper ores

SIC Code 1021

The Copper Ores Industry includes establishments primarily engaged in mining, milling, or otherwise preparing copper ores. This industry also includes establishments primarily engaged in the recovery of copper concentrates by precipitation and leaching of copper ore. Establishments primarily engaged in the recovery of refined copper by leaching copper concentrates are classified in major group 33, Primary Metal Industries.

This report includes figures for administrative offices, warehouses, storage facilities, and other auxiliary units which service mining establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions contained in the 1967 edition

of the Standard Industrial Classification (SIC) Manual.

In 1967, the value of products shipped and miscellaneous receipts of establishments classified in the Copper Ores Industry amounted to \$675.9 million, an increase of 1 percent compared with 1963. Value added in mining amounted to \$426.3 million in 1967, an increase of 2 percent from 1963. Average employment in the industry showed a decrease of 21 percent from 1963 to a total of 21.0 thousand employees in 1967. The modest increases shown above were the result of an industry-wide labor strike during most of the second half of 1967 which affected all but a few copper mining and milling operations.

For an explanation of the terms used in the tables, see appendix at the end of this report.

TABLE 1. General Statistics: 1967 and Earlier Years

(See appendix, "Explanation of Terms")

Year	Establishments		All employees		Production, development, and exploration workers			Value added in mining	Cost of supplies, etc., and purchased machinery installed	Value of shipments and receipts	Capital expenditures
	Total	With 20 employees or more	Number	Payroll	Number	Man-hours	Wages				
	(number)	(number)	(1,000)	(million dollars)	(1,000)	(millions)	(million dollars)	(million dollars)	(million dollars)	(million dollars)	(million dollars)
INDUSTRY 1021.—COPPER ORES											
1967 ¹	157	61	21.0	170.9	15.1	32.5	114.7	426.3	373.2	675.9	123.6
1963.....	160	41	26.5	187.3	21.4	45.3	142.4	417.1	340.2	670.2	87.1
1958 ²	148	38	27.6	143.5	20.9	41.0	106.4	266.5	236.0	457.6	44.9
1954 ³	210	41	27.8	136.1	21.5	46.7	98.5	334.9	256.1	508.7	82.2
1939 ⁴	⁶ 51	(NA)	26.8	42.6	23.8	51.2	34.5	108.5	33.1	145.6	(NA)
1929 ⁵	143	(NA)	⁷ 48.0	⁷ 83.3	44.5	(NA)	73.2	221.7	74.9	⁸ 283.5	(NA)
1919 ⁵	227	(NA)	48.7	78.3	45.4	(NA)	69.9	138.4	54.4	192.8	(NA)
1909 ⁶	223	(NA)	54.7	54.0	52.6	(NA)	50.1	86.4	48.7	135.1	(NA)
1902.....	¹⁰ 159	(NA)	27.6	23.2	¹¹ 26.3	(NA)	21.3	39.8	11.4	51.2	(NA)
1889 ¹²	(NA)	(NA)	8.8	6.2	8.5	(NA)	5.8	15.3	4.4	⁹ 19.7	(NA)
1880 ⁶	¹⁰ 42	(NA)	6.3	3.2	6.0	(NA)	(NA)	7.5	1.4	⁸ 8.9	(NA)
1870 ⁶	40	(NA)	5.4	2.7	(NA)	(NA)	(NA)	4.6	0.6	⁸ 5.2	(NA)
1860 ⁶	47	(NA)	5.2	1.8	(NA)	(NA)	(NA)	2.9	0.5	3.4	(NA)

(NA) Not available.

¹Reflects a substantial decrease in activity caused by a labor strike during most of the second half of 1967 which affected all but a few copper mining and milling operations.²Excludes data for copper ores in Alaska. For 1958, there were 9 copper establishments with 6 employees.³Excludes data for 2 copper ore establishments in Alaska with less than 15 employees.⁴Excludes data for Alaska.⁵Excludes some nonproducing operations for which statistics are available only for the copper, lead, zinc, gold, and silver ores industries as a group. For 1939, 9 such nonproducing operations with 46 employees and with wages, salaries, and selected expenses of \$92 thousand were reported. For 1929, 783 such establishments were reported with wages, salaries, and selected expenses of \$13,128 thousand; and for 1919 there were 500 such establishments with such expenses of \$13,055 thousand.⁶Includes some smelting and refining operations. For 1909, production, development, and exploration workers at copper smelters represented about 13 percent of the total shown for such workers in the copper ores industry.⁷Excludes data for central administrative offices operated separately from mines or plants.⁸Represents value of net shipments and receipts.⁹Includes data for lode gold and other lode mines in Alaska.¹⁰Represents number of mines.¹¹Figures for average employment were reduced to a 300-day basis for establishments which operated for a shorter period.¹²Represents statistics for Michigan, Montana, New Mexico, and Arizona only. Over 90 percent of the copper contained in copper ores was produced in these States.

TABLE 2. General Statistics, by Geographic Areas: 1967 and 1963

(See appendix, "Explanation of Terms")

Geographic area	(See appendix, Explanation of Terms)										1963		
	1967 ¹										1963		
	Establishments		All employees		Production, development, and exploration workers			Value added in mining	Cost of supplies, etc., and purchased machinery installed	Value of shipments and receipts	Capital expenditures	All employees	Value added in mining
	Total	With 20 employees or more	Number	Payroll	Number	Man-hours	Wages						
	(number)	(number)	(1,000)	(million dollars)	(1,000)	(millions)	(million dollars)	(million dollars)	(million dollars)	(million dollars)	(million dollars)	(1,000)	(million dollars)
United States, total.	157	61	21.0	170.9	15.1	32.5	114.7	426.3	373.2	675.9	123.6	26.5	417.1
Mountain.....	104	45	16.7	140.1	12.6	28.0	100.1	377.3	343.8	613.6	107.5	(NA)	(NA)
Arizona.....	48	23	9.3	80.8	6.8	16.2	57.0	262.0	132.6	339.4	55.2	12.5	257.8

(NA) Not available.

¹Reflects a substantial decrease in activity caused by a labor strike during most of the second half of 1967 which affected all but a few copper mining and milling operations.

Table 3. Production and Quantity and Value of Shipments by All Producers, by Geographic Areas: 1967 and 1963

(Includes production and quantity and value of products reported not only by establishments classified in this industry, but also by establishments classified in other industries, and shipping these products as "secondary" products. See appendix under "Individual Products")

Product code	Product and geographic area	1967 ¹			1963		
		Production (million short tons)	Shipments including interplant transfers		Production (million short tons)	Shipments including interplant transfers	
			Quantity (million short tons)	Value (million dollars)		Quantity (million short tons)	Value (million dollars)
	UNITED STATES						
1021- --	Copper ores, total.....	(X)	(X)	652.2	(X)	(X)	658.2
10211 --	Crude copper ores, total.....	² 126.5	44.6	115.9	² 145.3	60.9	139.2
10211 0-	Crude ore mined, total.....	126.5	(X)	(X)	145.3	(X)	(X)
10211 03	From underground operations.....	17.0	(X)	(X)	22.8	(X)	(X)
10211 05	From open-pit operations.....	109.5	(X)	(X)	122.5	(X)	(X)
10211 2-	Ore and residues shipped to smelters and mills.....	44.6	44.6	115.9	60.9	60.9	139.2
10212 01	Copper concentrates.....	3.0	2.9	459.8	4.3	4.3	468.3
10213 01	Copper precipitates.....	0.2	0.2	76.5	0.2	0.2	50.6
	ARIZONA						
1021- --	Copper ores, total.....	(X)	(X)	(D)	(X)	(X)	338.8
10211 --	Crude copper ores, total.....	² 73.7	(D)	(D)	² 80.8	11.1	35.2
10211 0-	Crude ore mined.....	73.7	(X)	(X)	80.8	(X)	(X)
10211 2-	Ore and residues shipped to smelters and mills.....	(D)	(D)	(D)	11.1	11.1	35.2
10212 01	Copper concentrates.....	1.9	1.8	267.1	2.5	2.5	303.6
10213 01	Copper precipitates.....	0.1	0.1	33.3			

(D) Withheld to avoid disclosing individual company data.

(X) Not applicable.

¹Reflects a substantial decrease in activity caused by a labor strike during the last half of 1967 which affected all but a few copper mining and milling operations.²Detail does not add to total due to the exclusion of ores and residues for shipment to smelters and mills which are already included under crude ore mined.

Table 4. Selected Supplies, Minerals Received for Preparation, and Purchased Machinery Installed: 1967 and 1963

(See appendix, "Explanation of Terms")

Code	Supplies	Unit of measure	1967 ¹		1963	
			Quantity	Cost (million dollars)	Quantity	Cost (million dollars)
	INDUSTRY 1021.--COPPER ORES					
	Selected supplies, minerals received for preparation, and purchased machinery installed, total.....		(X)	307.8	(X)	283.9
	Minerals received for preparation:					
100091	Crude ore and residues.....	1,000 short tons.	124.4	(²)	57.2	129.8
100091	Crude ore mined and prepared at same establishment.....	do.....		(X)	86.5	(X)
353011	Purchased machinery installed.....		(X)	83.2	(X)	45.6
	Supplies used:					
28921-	Explosives.....	Million lbs.....	106.0	6.4	61.7	5.3
289214	Blasting accessories.....		(X)	1.2	(X)	(³)
331201	Steel mill shapes and forms.....	1,000 short tons.	(NA)	17.9	170.0	19.9
970099	All other supplies.....		(X)	² 198.1	(X)	³ 83.4
976000	Selected supplies, minerals received for preparation, and pur- chased machinery installed, n.s.k. ⁴		(X)	1.1	(X)	(Z)

Note: Detail may not add to totals due to independent rounding. (NA) Not available. n.s.k. Not specified by kind. (X) Not applicable.
(Z) Less than \$50 thousand.

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²Value of crude ore received for preparation included with all other supplies to avoid disclosing individual company data.

³Cost of blasting accessories were included with all other supplies in 1963.

⁴This item represents the total cost of supplies for establishments that did not report detailed supplies. For 1967, this also includes estimates for establishments that were not mailed report forms.

GROUP 11

GROUP 12

GROUP 13

GROUP 14

SCOPE AND COVERAGE

This report is one of a series presenting preliminary information on industries and products from the 1967 Census of Mineral Industries. The data will be superseded in a final report which in turn will be included in Volume I, Summary and Industry Statistics, 1967 Census of Mineral Industries. That report will include a comprehensive discussion of the concepts and definitions used in the census.

The census of mineral industries covers each mining establishment of firms in the United States with one or more paid employees. Firms which operate more than one establishment were required to file a separate report for each location. Companies which engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation and the activities were of significant size.

For oil and gas field operation and contract services, reports were required for units somewhat different from the "establishment" reporting unit used for other types of mining. Every concern which operated oil and gas wells, drilled such wells for its own account or for others, performed exploration work for oil or gas, or performed oil and gas field services for others during any part of calendar year 1967 was required to submit a separate report for each State or for each district within Texas, Louisiana, New Mexico, and California (however, information on employment, oil and gas production, and capital expenditures was requested by county). Further, concerns which supplied contract services for others were required to submit a separate report for each State. (In this instance also, information on employment, receipts for services, and capital expenditures was requested by county.)

In the 1967 census, for the first time, approximately 10,000 single-unit establishments with 1 to 4 employees were excused from filing reports. Under special arrangements which safeguarded the confidentiality of both tax and census records, limited data on payrolls, sales, and industry classification from the administrative records of the Social Security Administration and the Internal Revenue Service were made available to the Census Bureau for use in the 1967 censuses of business, manufactures, and mineral industries. Estimates for data other than payrolls and sales for these small establishments were constructed from industry averages. The effect on industry aggregates is slight in most industries. For mining as a whole, they account for less than 1 percent of value added. In industry 1021, these small establishments accounted for less than 1 percent of value added.

In the 1967 Census of Mineral Industries, data for all single-unit establishments without paid employees were excluded because of the difficulty in

developing a mailing list for these establishments. The exclusion of these establishments has had only a slight effect on industry aggregates for most industries. Data for establishments without employees were included in the 1963, 1958, and 1954 censuses if these establishments reported more than \$500 in one of the following data items: (1) value of shipments and receipts, (2) cost of supplies and purchased machinery, or (3) capital expenditures. In the 1963 census, establishments without paid employees for mining as a whole accounted for approximately 3 percent of value added, while they accounted for less than 1 percent of value added for industry 1021.

As in earlier censuses, a number of small establishments may have been misclassified as to industry. However, such possible misclassifications have no significant effect on the statistics other than the number of establishments. As indicated above, report forms were not mailed to very small establishments (less than 5 employees). The industry classifications for these establishments were assigned on the basis of brief descriptions of the general activity of the establishment. Where the description is incomplete or there are relatively fine lines of demarcation between industries or between mining and nonmining activity, the code assigned to an establishment could differ from that which would have been assigned on the basis of more complete product information. Therefore, the total establishment count should be reviewed as an approximation rather than a precise measurement. The counts of establishments with 20 or more employees are far more reliable than the total number of establishments.

More detailed figures for this industry will appear in the final census reports. Final reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each mineral industry and for each State are being issued. Final industry reports and final area reports will be published during the spring and fall of 1970. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C. 20233.

The 1967 Census of Mineral Industries is the 16th census of mineral establishments in the United States. For 1967, it was conducted jointly with the censuses of manufactures, retail trade, wholesale trade, and selected services under authority of Title 13 of the United States Code. Title 13 specified that a census of mineral industries be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7."

Appendix

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the establishments and sold, transferred to other plants of the same company, or shipped on consignment.

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In general, the 1967 and 1963 minerals censuses figures were confined to separate totals for each crude and each prepared mineral. Where significant, separate shipments figures were also obtained for crude minerals going to preparation plants and those going to consumers.

Figures were collected on both quantity and value of shipments. Shipments include commercial shipments and transfers of products to other operations of the same company. For products which are used to a significant extent within the same establishment for power or heat, and for minerals mined and prepared in the same establishment, total production or separate data on production for such uses were collected. Typically, production was also collected for products for which there are usually significant differences between total production and total shipments as a result of stock changes.

For service industries, the amount received or due for services performed during 1967 was collected as a measure of output. For mine operators who also perform services, the amount received for such services was added to the total value of products shipped to determine total value of shipments and receipts for each establishment.

Table 3 of the individual industry reports provides the national and regional total shipments from all industries for each of the products primary to the industries covered in the report.

Shipments and Production--Shipments figures include all products physically shipped from the establishment during 1967, including material withdrawn from stockpiles and products shipped on consignment, whether or not sold in 1967. Prepared material or concentrates include prep-

aration from ores mined at the same establishment, purchased, received from other operations of the same company, or received for milling on a custom or toll basis. For products transferred to other establishments of the same company or prepared on a custom basis, the company was requested to include, in addition to direct costs of production, a reasonable proportion of company overhead and profits.

For industry and industry group totals, some duplication is introduced by the inclusion of materials transferred from one establishment to another for mineral preparation. Wherever value of shipments is shown without further specification, it represents gross shipments.

For years prior to 1954, data on shipments were not collected. Instead, the report forms requested data on the quantity and value of

production. In general, the data for these years were edited to represent net production, excluding duplications due to mining and later preparing the same material in the same industry.

Value Added in Mining--Since the 1954 census, this measure has been computed by subtracting the cost of supplies, etc., and purchased machinery from the sum of value of shipments and receipts and capital expenditures. This statistic avoids the duplication in value of shipments which results from the use of products of some establishments as supplies, energy sources, or materials by others. Moreover, it provides a measure of value added not only in mineral production, but also in the development of mineral properties. For these reasons, it is considered to be the best value measure for comparing the relative economic importance of mining among industries and geographic areas.

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U.S. DEPARTMENT OF COMMERCE
Bureau of the Census
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1967 Census of MINERAL INDUSTRIES

INDUSTRY SERIES



U.S. DEPARTMENT OF COMMERCE / Bureau of the Census

preliminary report

MIC67(P)-10B-2

Lead and zinc ores

SIC Code 1031

The Lead and Zinc Ores Industry includes establishments primarily engaged in mining, milling, or otherwise preparing lead ores, zinc ores, or lead-zinc ores. The lead ores subindustry represents establishments at which the principal metal contained in ores mined or milled, measured by value, was lead. The zinc ores subindustry represents establishments at which the principal metal contained in ores mined or milled, measured by value, was zinc.

This report includes figures for administrative offices, warehouses, storage facilities, and other auxiliary units which service mining establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions contained in the 1967 edition of the Standard Industrial Classification (SIC) Manual.

In 1967, the value of products shipped and miscellaneous receipts of establishments classified in the Lead and Zinc Ores Industry amounted to \$149.0 million, an increase of 9.6 percent compared with 1963. Value added in mining amounted to \$101.1 million in 1967, an increase of 19.8 percent from 1963. Average employment in the industry showed a decrease of 4.3 percent from 1963 to a total of 9.0 thousand employees in 1967.

For an explanation of the terms used in the tables, see appendix at the end of this report.

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TABLE 1. General Statistics: 1967 and Earlier Years

(See appendix, "Explanation of Terms")

Year	Establishments		All employees		Production, development, and exploration workers			Value added in mining	Cost of supplies, etc., and purchased machinery installed	Value of shipments and receipts	Capital expenditures
	Total	With 20 employees or more	Number	Payroll	Number	Man-hours	Wages				
	(number)	(number)	(1,000)	(million dollars)	(1,000)	(millions)	(million dollars)	(million dollars)	(million dollars)	(million dollars)	(million dollars)
INDUSTRY 1031.--LEAD AND ZINC ORES											
1967, total.....	165	57	9.0	60.1	7.3	14.7	45.5	101.1	90.8	149.0	42.9
Lead ores.....	104	23	4.3	30.7	3.4	6.7	22.0	37.0	63.0	65.8	34.2
Zinc ores.....	61	34	4.7	29.4	4.0	8.0	23.5	64.1	27.8	83.2	8.7
1963, total.....	205	46	9.4	49.3	7.8	14.8	37.9	84.4	63.5	136.0	11.9
Lead ores.....	125	13	4.3	21.9	3.4	5.9	15.3	34.0	22.8	50.7	6.1
Zinc ores.....	80	33	5.1	27.4	4.4	8.8	22.6	50.3	40.7	85.2	5.8
1958, total ¹	288	52	11.2	54.4	8.7	16.7	39.0	73.7	55.5	120.6	8.6
Lead ores ¹	211	26	6.9	33.8	5.5	10.4	24.8	48.0	32.1	75.6	4.5
Zinc ores.....	77	26	4.3	20.6	3.3	6.3	14.2	25.7	23.4	45.0	4.1
1954, total.....	520	90	16.6	71.4	13.6	27.6	53.7	107.4	80.1	175.9	11.5
Lead ores.....	343	41	8.7	39.0	7.2	14.7	29.5	62.7	37.3	94.9	5.2
Zinc ores.....	177	49	7.8	32.4	6.4	12.9	24.1	44.7	42.7	81.1	6.4
1939, total ²	³ 260	(NA)	17.7	25.3	15.7	32.5	20.3	47.3	15.3	72.6	(NA)
Lead ores.....	³ 86	(NA)	8.1	12.8	7.0	14.2	10.0	24.3	7.2	34.5	(NA)
Zinc ores.....	³ 174	(NA)	9.7	12.5	8.7	18.3	10.3	23.0	8.2	38.1	(NA)
1929, total ²	303	(NA)	⁴ 27.7	⁴ 44.2	25.9	(NA)	39.2	84.8	31.4	⁵ 112.4	(NA)
Lead ores.....	155	(NA)	⁴ 15.0	⁴ 25.5	14.0	(NA)	22.9	51.7	17.7	⁵ 67.6	(NA)
Zinc ores.....	148	(NA)	⁴ 12.8	⁴ 18.8	11.9	(NA)	16.3	33.1	13.7	⁵ 44.9	(NA)
1919 ²	432	(NA)	23.6	34.5	21.9	(NA)	30.7	53.6	22.0	75.6	(NA)
1909 ⁶ ⁷	1,040	(NA)	17.8	11.7	17.0	(NA)	10.6	21.9	9.5	31.4	(NA)
1902 ⁷	³ 584	(NA)	8.9	5.2	⁸ 8.0	(NA)	4.4	12.0	2.7	14.7	(NA)
1889 ⁹	(NA)	(NA)	3.2	1.2	3.1	(NA)	1.2	4.4	0.4	⁴ 4.8	(NA)
1880 ⁶ ¹⁰	³ 206	(NA)	7.5	2.6	7.1	(NA)	(NA)	3.5	0.3	⁵ 3.8	(NA)
1870, total ⁶	127	(NA)	1.7	0.6	(NA)	(NA)	(NA)	1.4	0.1	⁵ 1.5	(NA)
Lead ores.....	112	(NA)	1.1	0.4	(NA)	(NA)	(NA)	0.7	(Z)	⁵ 0.7	(NA)
Zinc ores.....	15	(NA)	0.6	0.3	(NA)	(NA)	(NA)	0.7	(Z)	⁵ 0.8	(NA)
1860 ⁶	43	(NA)	0.2	0.1	(NA)	(NA)	(NA)	0.2	0.2	0.4	(NA)

Note: Detail may not add to total due to independent rounding.

(NA) Not available. (Z) Less than \$50 thousand.

¹Excludes data for lead ores in Alaska. For 1958, there were two establishments in Alaska, with 0 to 4 employees, classed in the lead ores subindustry.²Excludes some nonproducing operations for which statistics are available only for the copper, lead, zinc, gold, and silver ores industries as a group. For 1939, 9 such nonproducing operations with 46 employees and with wages, salaries, and selected expenses of \$92 thousand were reported. For 1929, 783 such establishments were reported with wages, salaries, and selected expenses of \$13,128 thousand; and for 1919 there were 500 such establishments with such expenses of \$13,055 thousand.³Represents number of mines.⁴Excludes data for central administrative offices operated separately from mines or plants.⁵Represents value of net shipments and receipts.⁶Includes some smelting and refining operations. For 1909, production, development, and exploration workers at lead and zinc smelters and refineries represented about 3 percent of the total shown for such workers in the lead and zinc ores industry.⁷Data for establishments primarily producing argentiferous lead and zinc ores are included with those for gold and silver ores.⁸Figures for average employment were reduced to a 300-day basis for establishments which operated for a shorter period.⁹Represents New Jersey, Pennsylvania, Illinois, Wisconsin, Iowa, Missouri, Kansas, Virginia, Tennessee, Arkansas, and New Mexico. Except for value of shipments, excludes lead mining in Illinois, Virginia, Tennessee, and Arkansas (products valued at \$16 thousand) and zinc mining in Iowa, Missouri, Arkansas, and New Mexico (products valued at \$2,033).¹⁰Represents mines east of the 100th meridian only.

TABLE 2. General Statistics, by Geographic Areas: 1967 and 1963

(See appendix, "Explanation of Terms")

Geographic area	1967											1963	
	Establishments		All employees		Production, development, and exploration workers			Value added in mining	Cost of supplies, etc., and purchased machinery installed	Value of shipments and receipts	Capital expenditures	All employees	Value added in mining
	Total	With 20 employees or more	Number	Payroll	Number	Man-hours	Wages						
	(number)	(number)	(1,000)	(million dollars)	(1,000)	(millions)	(million dollars)						
	INDUSTRY 1031.--LEAD AND ZINC ORES												
United States, total.	165	57	9.0	60.1	7.3	14.7	45.5	101.1	90.8	149.0	42.9	9.4	84.4
South.....	30	12	1.8	9.9	1.5	2.9	7.2	19.1	10.7	26.7	3.1	1.5	13.9
West.....	100	24	4.1	28.2	3.5	7.1	23.5	49.5	19.9	64.2	5.3	4.8	42.3

Table 3. Production and Quantity and Value of Shipments by All Producers: 1967 and 1963

(Includes production and quantity and value of products reported not only by establishments classified in this industry, but also by establishments classified in other industries, and shipping these products as "secondary" products. See appendix under "Individual Products")

Product code	Product and geographic area	1967			1963		
		Production (million short tons)	Shipments including interplant transfers		Production (million short tons)	Shipments including interplant transfers	
			Quantity (million short tons)	Value (million dollars)		Quantity (million short tons)	Value (million dollars)
	UNITED STATES						
1031- --	Lead and zinc ores, total.....	(X)	(X)	147.0	(X)	(X)	126.8
	Production and shipments:						
10311 --	Crude lead and zinc ores, total.....	16.9	1.9	18.3	14.2	4.4	21.3
10311 0-	Crude ores mined in the lead and zinc ores industry.....	16.9	(X)	(X)	14.2	(X)	(X)
10311 21	Ores and residues for shipment to smelters.....	² 0.2	0.2	4.4	² 0.4	0.4	5.4
10311 23	Ores and residues for shipment to mills.....	² 1.7	1.7	13.9	² 4.1	4.1	16.0
10312 --	Lead and zinc concentrates, total.....	1.3	1.3	128.7	1.2	1.2	105.4
10312 02	Lead concentrates.....	0.4	0.4	49.7	¹ 0.3	¹ 0.3	43.3
10312 03	Zinc concentrates.....	0.9	0.9	78.9	¹ 0.8	¹ 0.9	62.1
	WEST						
1031- --	Lead and zinc ores, total.....	(X)	(X)	(D)	(X)	(X)	64.6
	Production and shipments:						
10311 --	Crude lead and zinc ores, total.....	3.7	(D)	(D)	4.6	1.7	10.7
10311 0-	Crude ore mined in the lead and zinc ores industry.....	3.7	(X)	(X)	4.6	(X)	(X)
10311 21 and 10311 23	Ores and residues for shipment to smelters or mills.....	(D)	(D)	(D)	² 1.7	1.7	10.7
10312 --	Lead and zinc concentrates, total.....	0.4	0.4	46.8	0.6	0.6	53.9
10312 02	Lead concentrates.....	0.1	0.1	20.7	¹ 0.2	¹ 0.2	26.0
10312 03	Zinc concentrates.....	0.3	0.3	26.2	¹ 0.4	¹ 0.4	27.9

Note: Detail may not add to total due to independent rounding.

(D) Withheld to avoid disclosing individual company data. (X) Not applicable.

¹Represents net concentrates. Excludes concentrates transferred from one establishment to another within the lead and zinc ores industry for further treatment.²Detail does not add to total due to the exclusion of ores and residues for shipment to smelters and mills which are already included under crude ore mined.

Table 4. Selected Supplies, Minerals Received for Preparation, and Purchased Machinery Installed: 1967 and 1963

(See appendix, "Explanation of Terms")

Code	Supplies	Unit of measure	1967		1963	
			Quantity	Cost (million dollars)	Quantity	Cost (million dollars)
	INDUSTRY 1031.--LEAD AND ZINC ORES					
	Selected supplies, minerals received for preparation, and purchased machinery installed, total.....	.....	(X)	60.7	(X)	53.1
100091	Ores and residues prepared in the lead and zinc industry:					
	Received from other establishments for preparation.....	Million short tons	16.3	{ (¹) (X)	4.6	26.1
100091	Mined and prepared at same establishment.....	Million short tons			9.8	(X)
353011	Purchased machinery installed.....	.....	(X)	16.0	(X)	4.3
	Supplies used:					
289211 and 289212	Explosives.....	Million pounds...	12.8	1.8	9.7	1.7
331201	Steel mill shapes and forms.....	1,000 short tons.	22.5	5.3	11.4	3.0
970099	All other supplies.....	.....	(X)	¹ 37.6	(X)	16.4
976000	Selected supplies, minerals recieved for preparation, and pur- chased machinery installed, n.s.k. ².....	.....	(X)	1.3	(X)	1.4

Note: Detail may not add to total due to independent rounding.

(D) Withheld to avoid disclosing figures for individual companies. n.s.k. Not specified by kind. (X) Not applicable.

¹Cost of ores and residues received from other establishments for preparation is included with all other supplies.²This item represents the total cost of supplies for establishments that did not report detailed supplies. For 1967, this also includes estimates for establishments that were not mailed report forms.

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SCOPE AND COVERAGE

This report is one of a series presenting preliminary information on industries and products from the 1967 Census of Mineral Industries. The data will be superseded in a final report which in turn will be included in Volume 1, Summary and Industry Statistics, 1967 Census of Mineral Industries. That report will include a comprehensive discussion of the concepts and definitions used in the census.

The census of mineral industries covers each mining establishment of firms in the United States with one or more paid employees. Firms which operate more than one establishment were required to file a separate report for each location. Companies which engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation and the activities were of significant size.

For oil and gas field operation and contract services, reports were required for units somewhat different from the "establishment" reporting unit used for other types of mining. Every concern which operated oil and gas wells, drilled such wells for its own account or for others, performed exploration work for oil or gas, or performed oil and gas field services for others during any part of calendar year 1967 was required to submit a separate report for each State or for each district within Texas, Louisiana, New Mexico, and California (however, information on employment, oil and gas production, and capital expenditures was requested by county). Further, concerns which supplied contract services for others were required to submit a separate report for each State. (In this instance also, information on employment, receipts for services, and capital expenditures was requested by county.)

In the 1967 census, for the first time, approximately 10,000 single-unit establishments with 1 to 4 employees were excused from filing reports. Under special arrangements which safeguarded the confidentiality of both tax and census records, limited data on payrolls, sales, and industry classification from the administrative records of the Social Security Administration and the Internal Revenue Service were made available to the Census Bureau for use in the 1967 censuses of business, manufactures, and mineral industries. Estimates for data other than payrolls and sales for these small establishments were constructed from industry averages. The effect on industry aggregates is slight in most industries. For mining as a whole, they account for less than 1 percent of value added. In industry 1031, these small establishments accounted for less than 1 percent of value added.

In the 1967 Census of Mineral Industries, data for all single-unit establishments without paid employees were excluded because of the difficulty in

developing a mailing list for these establishments. The exclusion of these establishments has had only a slight effect on industry aggregates for most industries. Data for establishments without employees were included in the 1963, 1958, and 1954 censuses if these establishments reported more than \$500 in one of the following data items: (1) value of shipments and receipts, (2) cost of supplies and purchased machinery, or (3) capital expenditures. In the 1963 census, establishments without paid employees for mining as a whole accounted for approximately 3 percent of value added, while they accounted for less than 1 percent of value added for industry 1031.

As in earlier censuses, a number of small establishments may have been misclassified as to industry. However, such possible misclassifications have no significant effect on the statistics other than the number of establishments. As indicated above, report forms were not mailed to very small establishments (less than 5 employees). The industry classifications for these establishments were assigned on the basis of brief descriptions of the general activity of the establishment. Where the description is incomplete or there are relatively fine lines of demarcation between industries or between mining and nonmining activity, the code assigned to an establishment could differ from that which would have been assigned on the basis of more complete product information. Therefore, the total establishment count should be reviewed as an approximation rather than a precise measurement. The counts of establishments with 20 or more employees are far more reliable than the total number of establishments.

More detailed figures for this industry will appear in the final census reports. Final reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each mineral industry and for each State are being issued. Final industry reports and final area reports will be published during the spring and fall of 1970. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C. 20233.

The 1967 Census of Mineral Industries is the 16th census of mineral establishments in the United States. For 1967, it was conducted jointly with the censuses of manufactures, retail trade, wholesale trade, and selected services under authority of Title 13 of the United States Code. Title 13 specified that a census of mineral industries be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7."

Appendix

EXPLANATION OF TERMS

(For a more complete discussion of these terms and the method of compiling the Census of Mineral Industries, see the Introduction to the 1963 Census of Mineral Industries, Volume I.)

All Employees--All full-time and part-time employees on the payrolls of operating mineral establishments for any part of the pay period ended nearest the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of the corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The number of production workers is the average of those for mid-month payroll periods of March, May, August, and November. The "all employee" number is the average number of production workers plus the number of other employees in mid-March.

Payroll--This item includes all forms of compensation such as salaries, wages, commissions, dismissal pay, all bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' Social Security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of these establishments, if a corporation; it excludes payments to the proprietor or partners, if an unincorporated concern. Respondents were told that in reporting they could follow the definition of payroll used for calculating the Federal withholding tax.

Production, Development, and Exploration Worker Man-Hours--The total man-hours figures represent all man-hours that production, development, and exploration workers worked both on active days during which there was production or development work, and inactive days, when only watchmen, inspectors, repairmen, and other maintenance men were on duty. They include all man-hours worked or paid for at the mining operations, except hours paid for vacations, holidays, or sick leave, when the employee was not at the establishment. Included are actual overtime hours, not straight-time equivalent hours. Man-hours of working proprietors or partners are excluded.

Cost of Supplies, etc., and Purchased Machinery--The 1967 census report forms requested information on supplies and purchased machinery installed; fuels and electric energy used; and contract work done by others for each establishment. These items included charges to both the current and capital accounts. The figures reported were to include items used during 1967 whether purchased, withdrawn from inventories, or received from other establishments of the company. For selected supplies and fuels and for electric energy, both quantity and cost data were requested. The cost data refer to direct charges actually paid or payable (after discounts) for items used during the year. Freight charges and other direct charges incurred by the establishment in acquiring the items are included. Where the company's records did not show actual amounts used, they were asked to approximate use by adding purchases (or receipts) during the year to opening inventory and subtracting closing inventory.

Separate figures were obtained for (a) selected supplies, minerals received for preparation, and purchased machinery installed; (b) electric energy purchased; (c) purchased fuels used for heat, power, or the generation of electricity; (d) contract work done by others; and (e) products bought and resold in the same condition. Supplies and equipment used in mine development, plant expansion, and capitalized repairs, which are chargeable to fixed assets accounts, were included, as were supplies furnished without charge to contractors for use at the mining operation and supplies sold to employees for use at the establishment. No data on such costs as advertising, insurance, telephone, and research and consulting services of other establishments; or on overhead costs, such as depreciation charges, rent, interest, and royalties were included in this item.

Specific Supplies Used and Minerals Prepared--In addition to the total cost of supplies, etc., and purchased machinery which every establishment was required to report, information was also collected on the consumption of major supplies used in mining. These supplies inquiries were restricted to those supplies which were important parts of the cost of production, exploration, and development of a particular industry and for which cost information was available from the firms' records. Information regarding the specific supplies consumed is shown in table 4.

On report forms for almost all mineral industries, except the contract services industries, a uniform inquiry was included on minerals prepared at the reported establish-

ments. Figures were obtained on minerals prepared from three sources: (1) Crude minerals mined at the establishment (quantity); (2) crude minerals received from other establishments of the company or purchased from others (quantity and cost); and (3) crude minerals received for preparation on a custom or toll basis (quantity and estimated value).

Establishments consuming less than a specified amount (usually \$5,000) were not requested to report the cost of a supply separately. Also, the cost of supplies for small establishments for which administrative records were used were imputed as "not specified by kind." (See text for importance of administrative records in the industry.)

Capital Expenditures--In the 1967 census, mining companies were asked to report expenditures made during the year for development and exploration of mineral properties, for new construction, and for machinery purchased at their operations that was chargeable to fixed assets accounts of the mineral establishment and were of a type for which depreciation, depletion, or Office of Minerals Exploration accounts were ordinarily maintained. Capital expenditures during 1967 were to be determined as "additions completed during the year plus construction in progress at the end of the year minus construction in progress at the beginning of the year." Reported capital expenditures were to include work done on contract as well as by the mine forces. Expenditures for machinery and equipment were to include those made for replacement purposes, as well as those for additions to capacity. Excluded from such expenditures totals are costs of maintenance and repairs charged as current operating expense. Also excluded are expenditures for land and mineral rights.

Wherever applicable, separate figures were provided for expenditures for (a) development and exploration of mineral property, (b) preparation plant construction and other construction, (c) new machinery and equipment, and (d) used plant and used equipment acquired from others.

Value of Shipments--The amounts under value of shipments are the values, f.o.b., mine, well, or plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts such as receipts for contract work performed for others, installation and repair, sales of scrap, and sale of products bought and resold without further processing. Included are all items produced by

the establishments and sold, transferred to other plants of the same company, or shipped on consignment.

In the case of multiunit companies, the firm was requested to report the value of products transferred to other establishments of the same company at full economic or commercial value, i.e., include not only the direct costs of production but also a reasonable proportion of "all other costs" (including company overhead) and profit.

Individual Products--In the 1967 Census of Mineral Industries, information on output of about 225 individual mineral product items was collected.

In general, the 1967 and 1963 minerals censuses figures were confined to separate totals for each crude and each prepared mineral. Where significant, separate shipments figures were also obtained for crude minerals going to preparation plants and those going to consumers.

Figures were collected on both quantity and value of shipments. Shipments include commercial shipments and transfers of products to other operations of the same company. For products which are used to a significant extent within the same establishment for power or heat, and for minerals mined and prepared in the same establishment, total production or separate data on production for such uses were collected. Typically, production was also collected for products for which there are usually significant differences between total production and total shipments as a result of stock changes.

For service industries, the amount received or due for services performed during 1967 was collected as a measure of output. For mine operators who also perform services, the amount received for such services was added to the total value of products shipped to determine total value of shipments and receipts for each establishment.

Table 3 of the individual industry reports provides the national and regional total shipments from all industries for each of the products primary to the industries covered in the report.

Shipments and Production--Shipments figures include all products physically shipped from the establishment during 1967, including material withdrawn from stockpiles and products shipped on consignment, whether or not sold in 1967. Prepared material or concentrates include prep-

aration from ores mined at the same establishment, purchased, received from other operations of the same company, or received for milling on a custom or toll basis. For products transferred to other establishments of the same company or prepared on a custom basis, the company was requested to include, in addition to direct costs of production, a reasonable proportion of company overhead and profits.

For industry and industry group totals, some duplication is introduced by the inclusion of materials transferred from one establishment to another for mineral preparation. Wherever value of shipments is shown without further specification, it represents gross shipments.

For years prior to 1954, data on shipments were not collected. Instead, the report forms requested data on the quantity and value of

production. In general, the data for these years were edited to represent net production, excluding duplications due to mining and later preparing the same material in the same industry.

Value Added in Mining--Since the 1954 census, this measure has been computed by subtracting the cost of supplies, etc., and purchased machinery from the sum of value of shipments and receipts and capital expenditures. This statistic avoids the duplication in value of shipments which results from the use of products of some establishments as supplies, energy sources, or materials by others. Moreover, it provides a measure of value added not only in mineral production, but also in the development of mineral properties. For these reasons, it is considered to be the best value measure for comparing the relative economic importance of mining among industries and geographic areas.

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1967 Census of MINERAL INDUSTRIES

INDUSTRY SERIES



U.S. DEPARTMENT OF COMMERCE / Bureau of the Census

preliminary report

MIC67(P)-10B-3

Lode and Placer gold

SIC Codes 1042 and 1043

The Lode Gold Industry includes establishments primarily engaged in mining gold ores from lode deposits. In addition to ore dressing methods such as crushing, grinding, gravity concentration, and froth flotation, this industry includes amalgamation, cyanidation, and the production of bullion at the mine or mill site.

The Placer Gold Industry includes establishments primarily engaged in recovery of gold from placer deposits by any method. This industry includes the production of bullion at the mine, mill, or dredge site.

This report includes figures for administrative offices, warehouses, storage facilities, and other auxiliary units which service mining establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions contained in the 1967 edition of the Standard Industrial Classification (SIC) Manual.

In 1967, the value of products shipped and miscellaneous receipts of establishments classified in the Lode Gold and Placer Gold Industries amounted to \$44.8 million, an increase of 31 percent compared with 1963. Value added in mining amounted to \$35.4 million in 1967, an increase of 31 percent from 1963. Average employment in the industry showed a decrease of 7 percent from 1963 to a total of 2.6 thousand employees in 1967.

For an explanation of the terms used in the tables, see appendix at the end of this report.

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TABLE 1. General Statistics: 1967 and Earlier Years

(See appendix, "Explanation of Terms")

Year	Establishments		All employees		Production, development, and exploration workers			Value added in mining (million dollars)	Cost of supplies, etc., and purchased machinery installed (million dollars)	Value of shipments and receipts (million dollars)	Capital expenditures (million dollars)
	Total	With 20 employees or more	Number	Payroll	Number	Man-hours	Wages				
	(number)	(number)	(1,000)	(million dollars)	(1,000)	(millions)	(million dollars)				
INDUSTRIES 1042 AND 1043.--LODE AND PLACER GOLD											
Industry 1042.--Lode gold											
1967.....	76	6	2.4	16.2	2.0	4.6	12.9	33.3	10.5	42.3	1.5
1963.....	201	5	2.4	13.9	2.1	4.5	11.4	21.3	8.2	26.6	2.9
1958 ¹	244	12	2.6	12.4	2.2	4.6	10.7	22.7	8.6	29.5	1.7
1954.....	313	15	3.1	12.5	2.7	6.0	10.6	22.0	8.9	28.7	2.2
1939 ^{2 3}	⁴ 872	(NA)	19.3	31.4	17.6	41.5	27.3	66.5	19.5	92.9	(NA)
1929 ^{2 3}	174	(NA)	⁵ 5.8	⁵ 9.8	5.4	(NA)	8.7	11.7	7.0	⁶ 17.6	(NA)
1919 ^{2 3 7}	740	(NA)	16.8	26.8	15.4	(NA)	23.8	35.9	22.9	58.8	(NA)
1909 ^{7 8 9}	4,729	(NA)	44.2	48.4	40.3	(NA)	42.6	50.1	37.4	87.5	(NA)
1902 ^{3 7 9 11}	⁴ 5,269	(NA)	51.1	52.9	¹⁰ 45.6	(NA)	45.8	53.6	29.6	83.1	(NA)
1880 ^{7 8}	⁴ 2,640	(NA)	¹² 19.1	¹² 12.3	17.8	52.0	(NA)	62.4	4.7	⁸ 67.1	(NA)
1870 ^{8 13}	281	(NA)	5.4	4.6	(NA)	(NA)	(NA)	11.7	1.7	⁶ 13.4	(NA)
1860 ^{8 13 14}	7,202	(NA)	44.3	23.7	(NA)	(NA)	(NA)	30.6	16.6	47.2	(NA)
Industry 1043.--Placer gold											
1967.....	47	2	0.2	1.1	0.2	0.4	0.9	2.1	0.7	2.5	0.3
1963.....	158	2	0.4	2.1	0.3	0.7	1.8	5.8	2.7	7.5	1.0
1958.....	165	6	0.8	5.0	0.8	1.9	4.2	9.1	4.4	12.6	0.9
1954.....	281	7	1.3	6.7	1.2	3.0	5.6	10.3	5.8	14.8	1.3
1939 ^{2 3}	⁴ 340	(NA)	3.7	6.8	3.2	8.1	5.6	21.9	6.1	28.0	(NA)
1929 ^{2 3}	32	(NA)	⁵ 0.7	⁵ 1.2	0.6	(NA)	1.0	2.6	1.6	3.8	(NA)
1919 ^{2 3}	408	(NA)	2.1	3.6	1.9	(NA)	3.0	8.6	4.4	12.9	(NA)
1909 ⁸	1,410	(NA)	5.8	8.0	5.3	(NA)	7.3	16.6	6.4	23.0	(NA)
1902 ^{3 11}	⁴ 975	(NA)	2.6	2.1	¹⁰ 2.3	(NA)	1.8	4.5	0.8	5.3	(NA)
1880 ⁸	⁴ 349	(NA)	1.1	0.6	1.1	(NA)	0.6	(NA)	(NA)	12.1	(NA)
1870 ^{8 13}	1,994	(NA)	10.4	3.4	(NA)	(NA)	(NA)	7.9	1.9	⁶ 9.8	(NA)

(NA) Not available.

¹Excludes data for lode gold in Alaska. For 1958, 7 lode gold establishments (with 0-4 employees) were reported in Alaska.²Excludes some nonproducing operations for which statistics are available only for the copper, lead, zinc, gold, and silver ores industries as a group. For 1939, 9 such operations with 46 employees and with wages, salaries, and selected expenses of \$92 thousand were reported; for 1929, 783 such establishments were reported with like expenses of \$13,128 thousand, and for 1919 there were 500 such establishments with like expenses of \$13,055 thousand.³Excludes data for Alaska. For 1919, data for lode gold mining in Alaska are included with those for copper ores.⁴Represents number of mines.⁵Excludes data for central administrative offices operated separately from mines or plants.⁶Represents net value of shipments and receipts.⁷Includes data for the Silver Ores Industry.⁸Includes some smelting and refining operations.⁹Data for establishments primarily producing argentiferous lead and zinc ores are included with those for gold and silver ores.¹⁰Figures for average employment were reduced to a 300-day basis for establishments which operated for a shorter period.¹¹Only combined figures are available for all of the 3,252 nonproducing gold mines reported for 1902. Data for all of these mines are included with the figures for producing lode gold and silver ores operations (See 1963 Census of Mineral Industries, Volume I).¹²Figures for number of employees include, but figures for wages and salaries exclude, data for 732 employees reported as "staff." Many of these persons may have been proprietors.¹³Figures for 1870 are probably understated and those for 1860 are probably overstated. For 1870, no estimates were made for missing reports. For 1860, estimates were made for about 5,000 apparently missing reports and the figures also include data for refineries and assay establishments.¹⁴For 1860, data for placer gold are included with lode gold.

TABLE 2. General Statistics, by Geographic Areas: 1967 and 1963

(Geographic data withheld to avoid disclosing figures for individual companies.)

Table 3. Production and Quantity and Value of Shipments by All Producers: 1967 and 1963

(Includes production and quantity and value of products reported not only by establishments classified in this industry, but also by establishments classified in other industries, and shipping these products as "secondary" products. See appendix under "Individual Products")

Product code	Product	1967			1963		
		Production (million short tons)	Shipments including interplant transfers		Production (million short tons)	Shipments including interplant transfers	
			Quantity (million short tons)	Value (million dollars)		Quantity (million short tons)	Value (million dollars)
1042- --	LODE GOLD, TOTAL.....	(X)	(X)	40.9	(X)	(X)	¹ 27.0
	Production and shipments:						
10421 0- 10422 01 10423 03 10423 05	Crude lode gold ore mined.....	3.2	(X)	(X)	2.5	(X)	(X)
	Gold concentrates, mill bullion, and precipitates.....	(X)	(X)	40.9	(X)	(X)	26.7
1043- --	PLACER GOLD.....	(X)	(X)	2.1	(X)	(X)	6.8
10433 07	Production and shipments.....	² ³ 61.3	² ³ 61.3	2.1	³ 193.7	³ 193.7	6.8

Note: Detail may not add to total due to independent rounding.

(X) Not applicable.

¹Includes lode gold ore and residues shipped to smelters valued at \$315 thousand.²Approximately 15 percent of this figures was estimated.³Represents thousands of fine ounces.

Table 4. Selected Supplies, Minerals Received for Preparation, and Purchased Machinery Installed: 1967 and 1963

(See appendix, "Explanation of Terms")

Code	Supplies	Unit of measure	1967		1963	
			Quantity	Cost (million dollars)	Quantity	Cost (million dollars)
	INDUSTRIES 1042 AND 1043.--GOLD					
	Selected supplies, minerals received for preparation, and purchased machinery installed, total.....		(X)	8.8	(X)	¹ 7.2
	Ores for preparation:					
100091	Crude lode gold ores produced and prepared at same establishment.....	Million short tons	3.2	(X)	1.9	(X)
104310	Gravel washed in the placer gold industry.....	Million cubic yds.	² 7.4	(X)	23.8	(X)
353011	Purchased machinery installed.....		(X)	1.4	(X)	0.9
970099	All other supplies.....		(X)	7.0	(X)	¹ 6.4
976000	Selected supplies, minerals received for preparation, and purchased machinery installed, n.s.k. ³		(X)	0.4		

Note: Detail may not add to total due to independent rounding.

n.s.k. Not specified by kind. (X) Not applicable.

¹Includes the value of products purchased for resale without further processing.²Approximately 15 percent of this figures was estimated.³This item represents the total cost of supplies for establishments that did not report detailed supplies. For 1967, this also includes estimates for establishments that were not mailed report forms.

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SCOPE AND COVERAGE

This report is one of a series presenting preliminary information on industries and products from the 1967 Census of Mineral Industries. The data will be superseded in a final report which in turn will be included in Volume I, Summary and Industry Statistics, 1967 Census of Mineral Industries. That report will include a comprehensive discussion of the concepts and definitions used in the census.

The census of mineral industries covers each mining establishment of firms in the United States with one or more paid employees. Firms which operate more than one establishment were required to file a separate report for each location. Companies which engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation and the activities were of significant size.

For oil and gas field operation and contract services, reports were required for units somewhat different from the "establishment" reporting unit used for other types of mining. Every concern which operated oil and gas wells, drilled such wells for its own account or for others, performed exploration work for oil or gas, or performed oil and gas field services for others during any part of calendar year 1967 was required to submit a separate report for each State or for each district within Texas, Louisiana, New Mexico, and California (however, information on employment, oil and gas production, and capital expenditures was requested by county). Further, concerns which supplied contract services for others were required to submit a separate report for each State. (In this instance also, information on employment, receipts for services, and capital expenditures was requested by county.)

In the 1967 census, for the first time, approximately 10,000 single-unit establishments with 1 to 4 employees were excused from filing reports. Under special arrangements which safeguarded the confidentiality of both tax and census records, limited data on payrolls, sales, and industry classification from the administrative records of the Social Security Administration and the Internal Revenue Service were made available to the Census Bureau for use in the 1967 censuses of business, manufactures, and mineral industries. Estimates for data other than payrolls and sales for these small establishments were constructed from industry averages. The effect on industry aggregates is slight in most industries. For mining as a whole, they account for less than 1 percent of value added. For industry 1042, these small establishments accounted for less than 1 percent of value added and for industry 1043, these establishments accounted for approximately 15 percent of value added.

In the 1967 Census of Mineral Industries, data for all single-unit establishments without paid employees were excluded because of the difficulty in

developing a mailing list for these establishments. The exclusion of these establishments has had only a slight effect on industry aggregates for most industries. Data for establishments without employees were included in the 1963, 1958, and 1954 censuses if these establishments reported more than \$500 in one of the following data items: (1) value of shipments and receipts, (2) cost of supplies and purchased machinery, or (3) capital expenditures. In the 1963 census, establishments without paid employees for mining as a whole accounted for approximately 3 percent of value added, while they accounted for less than 1 percent of value added for industry 1042, and less than 3 percent of value added for industry 1043.

As in earlier censuses, a number of small establishments may have been misclassified as to industry. However, such possible misclassifications have no significant effect on the statistics other than the number of establishments. As indicated above, report forms were not mailed to very small establishments (less than 5 employees). The industry classifications for these establishments were assigned on the basis of brief descriptions of the general activity of the establishment. Where the description is incomplete or there are relatively fine lines of demarcation between industries or between mining and nonmining activity, the code assigned to an establishment could differ from that which would have been assigned on the basis of more complete product information. Therefore, the total establishment count should be reviewed as an approximation rather than a precise measurement. The counts of establishments with 20 or more employees are far more reliable than the total number of establishments.

More detailed figures for this industry will appear in the final census reports. Final reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each mineral industry and for each State are being issued. Final industry reports and final area reports will be published during the spring and fall of 1970. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C. 20233.

The 1967 Census of Mineral Industries is the 16th census of mineral establishments in the United States. For 1967, it was conducted jointly with the censuses of manufactures, retail trade, wholesale trade, and selected services under authority of Title 13 of the United States Code. Title 13 specified that a census of mineral industries be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7."

Appendix

EXPLANATION OF TERMS

(For a more complete discussion of these terms and the method of compiling the Census of Mineral Industries, see the Introduction to the 1963 Census of Mineral Industries, Volume I.)

All Employees--All full-time and part-time employees on the payrolls of operating mineral establishments for any part of the pay period ended nearest the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of the corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The number of production workers is the average of those for mid-month payroll periods of March, May, August, and November. The "all employee" number is the average number of production workers plus the number of other employees in mid-March.

Payroll--This item includes all forms of compensation such as salaries, wages, commissions, dismissal pay, all bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' Social Security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of these establishments, if a corporation; it excludes payments to the proprietor or partners, if an unincorporated concern. Respondents were told that in reporting they could follow the definition of payroll used for calculating the Federal withholding tax.

Production, Development, and Exploration Worker Man-Hours--The total man-hours figures represent all man-hours that production, development, and exploration workers worked both on active days during which there was production or development work, and inactive days, when only watchmen, inspectors, repairmen, and other maintenance men were on duty. They include all man-hours worked or paid for at the mining operations, except hours paid for vacations, holidays, or sick leave, when the employee was not at the establishment. Included are actual overtime hours, not straight-time equivalent hours. Man-hours of working proprietors or partners are excluded.

Cost of Supplies, etc., and Purchased Machinery--The 1967 census report forms requested information on supplies and purchased machinery installed; fuels and electric energy used; and contract work done by others for each establishment. These items included charges to both the current and capital accounts. The figures reported were to include items used during 1967 whether purchased, withdrawn from inventories, or received from other establishments of the company. For selected supplies and fuels and for electric energy, both quantity and cost data were requested. The cost data refer to direct charges actually paid or payable (after discounts) for items used during the year. Freight charges and other direct charges incurred by the establishment in acquiring the items are included. Where the company's records did not show actual amounts used, they were asked to approximate use by adding purchases (or receipts) during the year to opening inventory and subtracting closing inventory.

Separate figures were obtained for (a) selected supplies, minerals received for preparation, and purchased machinery installed; (b) electric energy purchased; (c) purchased fuels used for heat, power, or the generation of electricity; (d) contract work done by others; and (e) products bought and resold in the same condition. Supplies and equipment used in mine development, plant expansion, and capitalized repairs, which are chargeable to fixed assets accounts, were included, as were supplies furnished without charge to contractors for use at the mining operation and supplies sold to employees for use at the establishment. No data on such costs as advertising, insurance, telephone, and research and consulting services of other establishments; or on overhead costs, such as depreciation charges, rent, interest, and royalties were included in this item.

Specific Supplies Used and Minerals Prepared--In addition to the total cost of supplies, etc., and purchased machinery which every establishment was required to report, information was also collected on the consumption of major supplies used in mining. These supplies inquiries were restricted to those supplies which were important parts of the cost of production, exploration, and development of a particular industry and for which cost information was available from the firms' records. Information regarding the specific supplies consumed is shown in table 4.

On report forms for almost all mineral industries, except the contract services industries, a uniform inquiry was included on minerals prepared at the reported establish-

ments. Figures were obtained on minerals prepared from three sources: (1) Crude minerals mined at the establishment (quantity); (2) crude minerals received from other establishments of the company or purchased from others (quantity and cost); and (3) crude minerals received for preparation on a custom or toll basis (quantity and estimated value).

Establishments consuming less than a specified amount (usually \$5,000) were not requested to report the cost of a supply separately. Also, the cost of supplies for small establishments for which administrative records were used were imputed as "not specified by kind." (See text for importance of administrative records in the industry.)

Capital Expenditures--In the 1967 census, mining companies were asked to report expenditures made during the year for development and exploration of mineral properties, for new construction, and for machinery purchased at their operations that was chargeable to fixed assets accounts of the mineral establishment and were of a type for which depreciation, depletion, or Office of Minerals Exploration accounts were ordinarily maintained. Capital expenditures during 1967 were to be determined as "additions completed during the year plus construction in progress at the end of the year minus construction in progress at the beginning of the year." Reported capital expenditures were to include work done on contract as well as by the mine forces. Expenditures for machinery and equipment were to include those made for replacement purposes, as well as those for additions to capacity. Excluded from such expenditures totals are costs of maintenance and repairs charged as current operating expense. Also excluded are expenditures for land and mineral rights.

Wherever applicable, separate figures were provided for expenditures for (a) development and exploration of mineral property, (b) preparation plant construction and other construction, (c) new machinery and equipment, and (d) used plant and used equipment acquired from others.

Value of Shipments--The amounts under value of shipments are the values, f.o.b., mine, well, or plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts such as receipts for contract work performed for others, installation and repair, sales of scrap, and sale of products bought and resold without further processing. Included are all items produced by

the establishments and sold, transferred to other plants of the same company, or shipped on consignment.

In the case of multiunit companies, the firm was requested to report the value of products transferred to other establishments of the same company at full economic or commercial value, i.e., include not only the direct costs of production but also a reasonable proportion of "all other costs" (including company overhead) and profit.

Individual Products--In the 1967 Census of Mineral Industries, information on output of about 225 individual mineral product items was collected.

In general, the 1967 and 1963 minerals censuses figures were confined to separate totals for each crude and each prepared mineral. Where significant, separate shipments figures were also obtained for crude minerals going to preparation plants and those going to consumers.

Figures were collected on both quantity and value of shipments. Shipments include commercial shipments and transfers of products to other operations of the same company. For products which are used to a significant extent within the same establishment for power or heat, and for minerals mined and prepared in the same establishment, total production or separate data on production for such uses were collected. Typically, production was also collected for products for which there are usually significant differences between total production and total shipments as a result of stock changes.

For service industries, the amount received or due for services performed during 1967 was collected as a measure of output. For mine operators who also perform services, the amount received for such services was added to the total value of products shipped to determine total value of shipments and receipts for each establishment.

Table 3 of the individual industry reports provides the national and regional total shipments from all industries for each of the products primary to the industries covered in the report.

Shipments and Production--Shipments figures include all products physically shipped from the establishment during 1967, including material withdrawn from stockpiles and products shipped on consignment, whether or not sold in 1967. Prepared material or concentrates include prep-

aration from ores mined at the same establishment, purchased, received from other operations of the same company, or received for milling on a custom or toll basis. For products transferred to other establishments of the same company or prepared on a custom basis, the company was requested to include, in addition to direct costs of production, a reasonable proportion of company overhead and profits.

For industry and industry group totals, some duplication is introduced by the inclusion of materials transferred from one establishment to another for mineral preparation. Wherever value of shipments is shown without further specification, it represents gross shipments.

For years prior to 1954, data on shipments were not collected. Instead, the report forms requested data on the quantity and value of

production. In general, the data for these years were edited to represent net production, excluding duplications due to mining and later preparing the same material in the same industry.

Value Added in Mining--Since the 1954 census, this measure has been computed by subtracting the cost of supplies, etc., and purchased machinery from the sum of value of shipments and receipts and capital expenditures. This statistic avoids the duplication in value of shipments which results from the use of products of some establishments as supplies, energy sources, or materials by others. Moreover, it provides a measure of value added not only in mineral production, but also in the development of mineral properties. For these reasons, it is considered to be the best value measure for comparing the relative economic importance of mining among industries and geographic areas.

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U.S. DEPARTMENT OF COMMERCE
Bureau of the Census
Washington, O.C. 20233

OFFICIAL BUSINESS



POSTAGE AND FEES PAID
U.S. DEPARTMENT OF COMMERCE



1967 Census of MINERAL INDUSTRIES

INDUSTRY SERIES



U.S. DEPARTMENT OF COMMERCE/Bureau of the Census

preliminary report

MIC67(P)-10B-4

Silver ores

SIC Code 1044

The Silver Ores Industry includes establishments primarily engaged in mining, milling, or otherwise preparing silver ores. The production of bullion at the mine or mill site is included.

This report includes figures for administrative offices, warehouses, storage facilities, and other auxiliary units which service mining establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions contained in the 1967 edition of the Standard Industrial Classification (SIC) Manual.

In 1967, the value of products shipped and miscellaneous receipts of establishments classified in the Silver Ores Industry amounted to \$19.2 million, a decrease of 26 percent compared with 1963. Value added in mining amounted to \$16.7 million in 1967, a decrease of 24 percent from 1963. Average employment in the industry showed a decrease of 13 percent from 1963 to a total of 1.3 thousand employees in 1967.

For an explanation of the terms used in the tables, see appendix at the end of this report.

TABLE 1. General Statistics: 1967 and Earlier Years

(See appendix, "Explanation of Terms")

Year	Establishments		All employees		Production, development, and exploration workers			Value added in mining	Cost of supplies, etc., and purchased machinery installed	Value of shipments and receipts	Capital expenditures
	Total	With 20 employees or more	Number	Payroll	Number	Man-hours	Wages				
	(number)	(number)	(1,000)	(million dollars)	(1,000)	(millions)	(million dollars)	(million dollars)	(million dollars)	(million dollars)	(million dollars)
	INDUSTRY 1044.--SILVER ORES										
1967.....	59	8	1.3	8.7	1.1	2.0	6.8	16.7	5.3	19.2	2.7
1963.....	107	8	1.5	8.8	1.2	2.3	6.8	21.9	7.4	26.1	3.3
1958.....	61	5	1.0	5.8	0.9	1.7	4.8	10.4	3.3	12.6	1.2
1954.....	101	3	1.3	6.0	1.1	2.2	5.0	9.9	3.4	12.1	1.1
1939.....	¹ 166	(NA)	4.6	6.9	4.3	9.1	6.0	16.3	3.4	21.3	(NA)
1929 ²	67	(NA)	³ 2.8	³ 4.9	2.6	(NA)	4.3	5.9	3.0	⁴ 8.5	(NA)
1870.....	102	(NA)	1.1	0.8	(NA)	(NA)	(NA)	2.8	0.5	⁴ 3.2	(NA)
1860.....	6	(NA)	0.3	0.1	(NA)	(NA)	(NA)	0.9	0.1	1.0	(NA)

(NA) Not available.

¹Represents number of mines.

²In 1919, 1909, 1902, and 1880 data for the Silver Ores Industry were combined and shown with the Lode Gold Industry.

³Excludes data for central administrative offices operated separately from mines or plants.

⁴Represents net shipments and receipts.

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TABLE 2. General Statistics, by Geographic Areas: 1967 and 1963

(See appendix, "Explanation of Terms")

(See appendix, "Explanation of Terms.")

Geographic area	1967										1963		
	Establishments		All employees		Production, development, and exploration workers			Value added in mining	Cost of supplies, etc., and purchased machinery installed	Value of shipments and receipts	Capital expendi- tures	All employees	Value added in mining
	Total	With 20 employ- ees or more	Number	Payroll	Number	Man-hours	Wages						
	(number)	(number)	(1,000)	(million dollars)	(1,000)	(millions)	(million dollars)	(million dollars)	(million dollars)	(million dollars)	(million dollars)	(1,000)	(million dollars)
INDUSTRY 1044.-- SILVER ORES													
United States.....	59	8	1.3	8.7	1.1	2.0	6.8	16.7	5.3	19.2	2.7	1.5	21.9
Idaho.....	15	6	1.0	7.3	0.8	1.6	5.7	14.8	4.4	17.9	1.3	1.0	17.1

Table 3. Production and Quantity and Value of Shipments by All Producers: 1967 and 1963

(Includes production and quantity and value of products reported not only by establishments classified in this industry, but also by establishments classified in other industries, and shipping these products as "secondary" products. See appendix under "Individual Products")

Product code	Product and geographic area	1967			1963		
		Production (1,000 short tons)	Shipments, including interplant transfers		Production (1,000 short tons)	Shipments, including interplant transfers	
			Quantity (1,000 short tons)	Value (million dollars)		Quantity (1,000 short tons)	Value (million dollars)
	UNITED STATES						
1044--	SILVER ORES, TOTAL.....	(X)	(X)	20.7	(X)	(X)	25.9
10441 0-	Crude silver ores.....	754.9	(X)	(X)	916.0	(X)	(X)
10441 2-	Crude ores and residues for shipment to smelters and mills.....	159.3	158.2	0.4	123.0	123.0	1.3
10442 01	Silver concentrates.....	41.6	35.1	20.3	64.0	64.0	¹ 24.6
10443 07	Placer silver.....	(D)	(D)	(Z)	17.0	17.0	(Z)
	IDAHO						
1044--	Silver ores, total.....	(X)	(X)	19.4	(X)	(X)	20.9
10441 0-	Crude silver ores.....	562.8	(X)	(X)	507.0	(X)	(X)
10441 2-	Crude ores and residues for shipment to smelters and mills.....	(²)	(²)	(²)	(²)	(²)	(²)
10442 01	Silver concentrates.....	² 42.5	² 36.3	² 19.4	² 49.0	² 49.0	² 20.9

Note: Detail may not add to totals due to independent rounding. (D) Withheld to avoid disclosure of individual company data.
 (X) Not applicable. (Z) Represents less than \$50 thousand.

¹Includes the value of silver mill bullion.²Figures for ores and residues for shipment to smelters are included with those for concentrates.

Table 4. Selected Supplies, Minerals Received for Preparation, and Purchased Machinery Installed: 1967 and 1963

(See appendix, "Explanation of Terms")

Code	Supplies	Unit of measure	1967		1963	
			Quantity	Cost (million dollars)	Quantity	Cost (million dollars)
	INDUSTRY 1044.--SILVER ORES					
	Selected supplies, minerals received for preparation, and purchased machinery installed, total.....		(X)	4.3	(X)	¹ 6.1
	Ores for preparation:					
100091	Crude ores and residues received for preparation.....	1,000 short tons.	-	-	816.0	(²)
100091	Crude ores and residues produced and prepared at same establishment.....	do.....	576.0	(X)		(X)
353011	Purchased machinery installed.....		(X)	0.8	(X)	1.2
	Supplies used:					
331201	Steel mill shapes and forms.....	1,000 short tons.	(NA)	0.6	(X)	¹ 25.0
970099	All other supplies.....		(X)	2.5		
976000	Selected supplies, minerals received for preparation, and purchased machinery installed, n.s.k. ³		(X)	0.4		

Note: Detail may not add to the total due to independent rounding.

(NA) Not available. n.s.k. Not specified by kind. (X) Not applicable.

¹Includes the cost of products bought and resold without further processing.²Included with all other supplies.³This item represents the total cost of supplies for establishments that did not report detailed supplies data. For 1967 this also includes estimates for establishments that were not mailed report forms.

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SCOPE AND COVERAGE

This report is one of a series presenting preliminary information on industries and products from the 1967 Census of Mineral Industries. The data will be superseded in a final report which in turn will be included in Volume I, Summary and Industry Statistics, 1967 Census of Mineral Industries. That report will include a comprehensive discussion of the concepts and definitions used in the census.

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For oil and gas field operation and contract services, reports were required for units somewhat different from the "establishment" reporting unit used for other types of mining. Every concern which operated oil and gas wells, drilled such wells for its own account or for others, performed exploration work for oil or gas, or performed oil and gas field services for others during any part of calendar year 1967 was required to submit a separate report for each State or for each district within Texas, Louisiana, New Mexico, and California (however, information on employment, oil and gas production, and capital expenditures was requested by county). Further, concerns which supplied contract services for others were required to submit a separate report for each State. (In this instance also, information on employment, receipts for services, and capital expenditures was requested by county.)

In the 1967 census, for the first time, approximately 10,000 single-unit establishments with 1 to 4 employees were excused from filing reports. Under special arrangements which safeguarded the confidentiality of both tax and census records, limited data on payrolls, sales, and industry classification from the administrative records of the Social Security Administration and the Internal Revenue Service were made available to the Census Bureau for use in the 1967 censuses of business, manufactures, and mineral industries. Estimates for data other than payrolls and sales for these small establishments were constructed from industry averages. The effect on industry aggregates is slight in most industries. For mining as a whole, they account for less than 1 percent of value added. In industry 1044, these small establishments accounted for less than 1 percent of value added.

In the 1967 Census of Mineral Industries, data for all single-unit establishments without paid employees were excluded because of the difficulty in

developing a mailing list for these establishments. The exclusion of these establishments has had only a slight effect on industry aggregates for most industries. Data for establishments without employees were included in the 1963, 1958, and 1954 censuses if these establishments reported more than \$500 in one of the following data items: (1) value of shipments and receipts, (2) cost of supplies and purchased machinery, or (3) capital expenditures. In the 1963 census, establishments without paid employees for mining as a whole accounted for approximately 3 percent of value added, while they accounted for less than 2 percent of value added for industry 1044.

As in earlier censuses, a number of small establishments may have been misclassified as to industry. However, such possible misclassifications have no significant effect on the statistics other than the number of establishments. As indicated above, report forms were not mailed to very small establishments (less than 5 employees). The industry classifications for these establishments were assigned on the basis of brief descriptions of the general activity of the establishment. Where the description is incomplete or there are relatively fine lines of demarcation between industries or between mining and nonmining activity, the code assigned to an establishment could differ from that which would have been assigned on the basis of more complete product information. Therefore, the total establishment count should be reviewed as an approximation rather than a precise measurement. The counts of establishments with 20 or more employees are far more reliable than the total number of establishments.

More detailed figures for this industry will appear in the final census reports. Final reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each mineral industry and for each State are being issued. Final industry reports and final area reports will be published during the spring and fall of 1970. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C. 20233.

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Appendix

EXPLANATION OF TERMS

(For a more complete discussion of these terms and the method of compiling the Census of Mineral Industries, see the Introduction to the 1963 Census of Mineral Industries, Volume I.)

All Employees--All full-time and part-time employees on the payrolls of operating mineral establishments for any part of the pay period ended nearest the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of the corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The number of production workers is the average of those for mid-month payroll periods of March, May, August, and November. The "all employee" number is the average number of production workers plus the number of other employees in mid-March.

Payroll--This item includes all forms of compensation such as salaries, wages, commissions, dismissal pay, all bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' Social Security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of these establishments, if a corporation; it excludes payments to the proprietor or partners, if an unincorporated concern. Respondents were told that in reporting they could follow the definition of payroll used for calculating the Federal withholding tax.

Production, Development, and Exploration Worker Man-Hours--The total man-hours figures represent all man-hours that production, development, and exploration workers worked both on active days during which there was production or development work, and inactive days, when only watchmen, inspectors, repairmen, and other maintenance men were on duty. They include all man-hours worked or paid for at the mining operations, except hours paid for vacations, holidays, or sick leave, when the employee was not at the establishment. Included are actual overtime hours, not straight-time equivalent hours. Man-hours of working proprietors or partners are excluded.

Cost of Supplies, etc., and Purchased Machinery--The 1967 census report forms requested information on supplies and purchased machinery installed; fuels and electric energy used; and contract work done by others for each establishment. These items included charges to both the current and capital accounts. The figures reported were to include items used during 1967 whether purchased, withdrawn from inventories, or received from other establishments of the company. For selected supplies and fuels and for electric energy, both quantity and cost data were requested. The cost data refer to direct charges actually paid or payable (after discounts) for items used during the year. Freight charges and other direct charges incurred by the establishment in acquiring the items are included. Where the company's records did not show actual amounts used, they were asked to approximate use by adding purchases (or receipts) during the year to opening inventory and subtracting closing inventory.

Separate figures were obtained for (a) selected supplies, minerals received for preparation, and purchased machinery installed; (b) electric energy purchased; (c) purchased fuels used for heat, power, or the generation of electricity; (d) contract work done by others; and (e) products bought and resold in the same condition. Supplies and equipment used in mine development, plant expansion, and capitalized repairs, which are chargeable to fixed assets accounts, were included, as were supplies furnished without charge to contractors for use at the mining operation and supplies sold to employees for use at the establishment. No data on such costs as advertising, insurance, telephone, and research and consulting services of other establishments; or on overhead costs, such as depreciation charges, rent, interest, and royalties were included in this item.

Specific Supplies Used and Minerals Prepared--In addition to the total cost of supplies, etc., and purchased machinery which every establishment was required to report, information was also collected on the consumption of major supplies used in mining. These supplies inquiries were restricted to those supplies which were important parts of the cost of production, exploration, and development of a particular industry and for which cost information was available from the firms' records. Information regarding the specific supplies consumed is shown in table 4.

On report forms for almost all mineral industries, except the contract services industries, a uniform inquiry was included on minerals prepared at the reported establish-

ments. Figures were obtained on minerals prepared from three sources: (1) Crude minerals mined at the establishment (quantity); (2) crude minerals received from other establishments of the company or purchased from others (quantity and cost); and (3) crude minerals received for preparation on a custom or toll basis (quantity and estimated value).

Establishments consuming less than a specified amount (usually \$5,000) were not requested to report the cost of a supply separately. Also, the cost of supplies for small establishments for which administrative records were used were imputed as "not specified by kind." (See text for importance of administrative records in the industry.)

Capital Expenditures--In the 1967 census, mining companies were asked to report expenditures made during the year for development and exploration of mineral properties, for new construction, and for machinery purchased at their operations that was chargeable to fixed assets accounts of the mineral establishment and were of a type for which depreciation, depletion, or Office of Minerals Exploration accounts were ordinarily maintained. Capital expenditures during 1967 were to be determined as "additions completed during the year plus construction in progress at the end of the year minus construction in progress at the beginning of the year." Reported capital expenditures were to include work done on contract as well as by the mine forces. Expenditures for machinery and equipment were to include those made for replacement purposes, as well as those for additions to capacity. Excluded from such expenditures totals are costs of maintenance and repairs charged as current operating expense. Also excluded are expenditures for land and mineral rights.

Wherever applicable, separate figures were provided for expenditures for (a) development and exploration of mineral property, (b) preparation plant construction and other construction, (c) new machinery and equipment, and (d) used plant and used equipment acquired from others.

Value of Shipments--The amounts under value of shipments are the values, f.o.b., mine, well, or plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts such as receipts for contract work performed for others, installation and repair, sales of scrap, and sale of products bought and resold without further processing. Included are all items produced by

the establishments and sold, transferred to other plants of the same company, or shipped on consignment.

In the case of multiunit companies, the firm was requested to report the value of products transferred to other establishments of the same company at full economic or commercial value, i.e., include not only the direct costs of production but also a reasonable proportion of "all other costs" (including company overhead) and profit.

Individual Products--In the 1967 Census of Mineral Industries, information on output of about 225 individual mineral product items was collected.

In general, the 1967 and 1963 minerals censuses figures were confined to separate totals for each crude and each prepared mineral. Where significant, separate shipments figures were also obtained for crude minerals going to preparation plants and those going to consumers.

Figures were collected on both quantity and value of shipments. Shipments include commercial shipments and transfers of products to other operations of the same company. For products which are used to a significant extent within the same establishment for power or heat, and for minerals mined and prepared in the same establishment, total production or separate data on production for such uses were collected. Typically, production was also collected for products for which there are usually significant differences between total production and total shipments as a result of stock changes.

For service industries, the amount received or due for services performed during 1967 was collected as a measure of output. For mine operators who also perform services, the amount received for such services was added to the total value of products shipped to determine total value of shipments and receipts for each establishment.

Table 3 of the individual industry reports provides the national and regional total shipments from all industries for each of the products primary to the industries covered in the report.

Shipments and Production--Shipments figures include all products physically shipped from the establishment during 1967, including material withdrawn from stockpiles and products shipped on consignment, whether or not sold in 1967. Prepared material or concentrates include prep-

aration from ores mined at the same establishment, purchased, received from other operations of the same company, or received for milling on a custom or toll basis. For products transferred to other establishments of the same company or prepared on a custom basis, the company was requested to include, in addition to direct costs of production, a reasonable proportion of company overhead and profits.

For industry and industry group totals, some duplication is introduced by the inclusion of materials transferred from one establishment to another for mineral preparation. Wherever value of shipments is shown without further specification, it represents gross shipments.

For years prior to 1954, data on shipments were not collected. Instead, the report forms requested data on the quantity and value of

production. In general, the data for these years were edited to represent net production, excluding duplications due to mining and later preparing the same material in the same industry.

Value Added in Mining--Since the 1954 census, this measure has been computed by subtracting the cost of supplies, etc., and purchased machinery from the sum of value of shipments and receipts and capital expenditures. This statistic avoids the duplication in value of shipments which results from the use of products of some establishments as supplies, energy sources, or materials by others. Moreover, it provides a measure of value added not only in mineral production, but also in the development of mineral properties. For these reasons, it is considered to be the best value measure for comparing the relative economic importance of mining among industries and geographic areas.

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U.S. DEPARTMENT OF COMMERCE
Bureau of the Census
Washington, D.C. 20233

OFFICIAL BUSINESS



POSTAGE AND FEES PAID
U.S. DEPARTMENT OF COMMERCE

1967 Census of
MINERAL INDUSTRIES

INDUSTRY SERIES



U.S. DEPARTMENT OF COMMERCE/Bureau of the Census

preliminary report

MIC67(P)-10C-1

Bauxite and other aluminum ores

SIC Code 1051

The Bauxite and Other Aluminum Ores Industry includes establishments primarily engaged in mining, milling, or otherwise preparing bauxite and other aluminum ores. Associated activities such as drying, calcining, activating, and sintering are also included.

This report includes figures for administrative offices, warehouses, storage facilities, and other auxiliary units which service mining establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions contained in the 1967 edition of the Standard Industrial Classification (SIC) Manual.

In 1967, the value of products shipped and miscellaneous receipts of establishments classified in the Bauxite and Other Aluminum Ores Industry amounted to \$29.9 million, an increase of 39 percent compared with 1963. Value added in mining amounted to \$23.8 million in 1967, an increase of 36 percent from 1963. The 1967 average employment in the industry was 16 thousand which is approximately the same as 1963.

For an explanation of the terms used in the tables, see appendix at the end of this report.

TABLE 1. General Statistics: 1967 and Earlier Years

(See appendix, "Explanation of Terms")

Year	Establishments		All employees		Production, development, and exploration workers			Value added in mining (million dollars)	Cost of supplies, etc., and purchased machinery installed (million dollars)	Value of shipments and receipts (million dollars)	Capital expenditures (million dollars)
	Total	With 20 employees or more	Total	Payroll	Total	Man-hours	Wages				
	(number)	(number)	(1,000)	(million dollars)	(1,000)	(million)	(million dollars)				
	INDUSTRY 1051. --BAUXITE AND OTHER ALUMINUM ORES										
1967.....	17	7	0.6	4.1	0.5	0.8	2.9	23.8	6.5	29.9	0.4
1963.....	17	4	0.6	3.4	0.4	0.8	2.3	17.5	4.3	21.5	0.3
1958.....	29	9	0.7	3.6	0.5	0.9	2.3	15.4	4.2	18.2	1.4
1954.....	25	6	0.9	3.6	0.7	1.3	2.5	12.8	4.3	16.8	0.3
1939 ¹	16	(NA)	0.8	0.8	0.7	1.2	0.6	2.0	0.6	² 2.5	(NA)
1935.....	³ 11	(NA)	⁴ 0.6	⁴ 0.5	0.6	(NA)	0.3	1.2	0.4	² 1.5	(NA)
1929.....	9	(NA)	0.7	0.8	0.6	(NA)	0.5	1.8	0.6	² 2.2	(NA)
1919.....	10	(NA)	0.8	1.1	0.7	(NA)	0.9	1.7	0.4	2.2	(NA)
1909.....	10	(NA)	0.6	0.2	0.6	(NA)	0.2	0.6	0.1	0.7	(NA)
1902.....	³ 38	(NA)	0.2	0.1	⁵ 0.2	(NA)	0.1	0.1	(Z)	² 0.1	(NA)

(NA) Not available. (Z) Less than \$50 thousand.

¹Excludes statistics for two nonproducing mines. Figures for these bauxite operations were combined in 1939 with the figures for two nonproducing manganese ores mines and one chromite mine. For the five nonproducing operations combined, employment averages 21 for that year and principle expenses amounted to \$66 thousand.

²For 1939 and earlier years, represents value of net production and receipts.

³Represents number of mines.

⁴Excludes figures for employees at central offices maintained independently of mine offices.

⁵Figures for average employment were converted to a 300-day basis for establishments which operated for a shorter period.

TABLE 2. General Statistics, by Geographic Areas: 1967 and 1963

(Geographic data withheld to avoid disclosing figures for individual companies)

TABLE 3. Quantity and Value of Shipments by All Producers: 1967 and 1963

(Includes quantity and value of the products reported not only by establishments classified in this industry, but also by establishments classified in other industries, and shipping these products "secondary" products. See appendix under "Individual Products")

Product code	Product	1967				1963			
		Production (1,000 long tons)	Shipments including interplant transfers or receipts			Production (1,000 long tons)	Shipments including interplant transfers or receipts		
			Quantity (1,000 long tons)	Dried bauxite equivalent (1,000 long tons)	Value (million dollars)		Quantity (1,000 long tons)	Dried bauxite equivalent (1,000 long tons)	Value (million dollars)
1051- --	BAUXITE, TOTAL.....	(X)	(X)	(X)	26.5	(X)	(X) ¹	(X)	20.5
	Production and shipments:								
10511 --	Crude (undried) bauxite.....	2,134.6	2,140.0	1,767.1	23.0	1,863.0	(D)	(D)	(D)
10511 20	Mined.....	2,134.6	(X)	(X)	(X)	1,863.0	(X)	(X)	(X)
10511 23	Shipped to preparation plants.....	(X)	2,140.0	1,767.1	23.0	(X)	139.0	79.0	(²)
10511 21	Shipped to consumers.....	(X)				(X)	1,789.0	1,478.0	20.5
10512 --	Treated bauxite, total.....	137.5	140.1	182.6	3.5	(D)			
10512 01	Dried.....	(D)	(D)	(D)	(D)	59.0	59.0	59.0	0.7
10512 03	Calcined and activated.....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)

(D) Withheld to avoid disclosing figures for individual companies.

(X) Not applicable.

¹Represents gross shipments less receipts from other establishments for preparation or treatment.²Not shown to avoid disclosing figures for kaolin shipped as a secondary product by 4 bauxite establishments.

**TABLE 4. Selected Supplies, Minerals Received for Preparation, and Purchased Machinery Installed:
1967 and 1963**

(See appendix, "Explanation of Terms")

Code	Supplies	Unit of measure	1967		1963	
			Quantity	Cost (million dollars)	Quantity	Cost (million dollars)
	INDUSTRY 1051.--BAUXITE AND OTHER ALUMINUM ORES					
	Selected supplies, minerals received for preparation, and purchased machinery installed, total.....		(X)	3.5	(X)	2.6
	Ores and concentrates received for treatment:					
105191	Crude or dried bauxite.....	1,000 long tons...	189.8	1.6	(NA)	1.5
100097	Other ores and concentrates.....	1,000 short tons..	(D)	(¹)		
353011	Purchased machinery installed.....		(X)	0.4	(X)	0.5
	Supplies used:					
28921-	Explosives.....	1,000 lbs.....	(D)	¹ 1.5	(X)	0.1
331201	Steel mill shapes and forms.....		(X)		(X)	
970099	All other supplies.....		(X)		(X)	0.6
976000	Selected supplies, minerals received for preparation, and pur- chased machinery installed, n.s.k. ²		(X)			

(D) Withheld to avoid disclosing figures for individual companies. (NA) Not available. n.s.k. Not specified by kind. (X) Not applicable.

¹Cost of other ores and concentrates received are included in cost of supplies used.

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Capital Expenditures--In the 1967 census, mining companies were asked to report expenditures made during the year for development and exploration of mineral properties, for new construction, and for machinery purchased at their operations that was chargeable to fixed assets accounts of the mineral establishment and were of a type for which depreciation, depletion, or Office of Minerals Exploration accounts were ordinarily maintained. Capital expenditures during 1967 were to be determined as "additions completed during the year plus construction in progress at the end of the year minus construction in progress at the beginning of the year." Reported capital expenditures were to include work done on contract as well as by the mine forces. Expenditures for machinery and equipment were to include those made for replacement purposes, as well as those for additions to capacity. Excluded from such expenditures totals are costs of maintenance and repairs charged as current operating expense. Also excluded are expenditures for land and mineral rights.

Wherever applicable, separate figures were provided for expenditures for (a) development and exploration of mineral property, (b) preparation plant construction and other construction, (c) new machinery and equipment, and (d) used plant and used equipment acquired from others.

Value of Shipments--The amounts under value of shipments are the values, f.o.b., mine, well, or plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts such as receipts for contract work performed for others, installation and repair, sales of scrap, and sale of products bought and resold without further processing. Included are all items produced by

the establishments and sold, transferred to other plants of the same company, or shipped on consignment.

In the case of multiunit companies, the firm was requested to report the value of products transferred to other establishments of the same company at full economic or commercial value, i.e., include not only the direct costs of production but also a reasonable proportion of "all other costs" (including company overhead) and profit.

Individual Products--In the 1967 Census of Mineral Industries, information on output of about 225 individual mineral product items was collected.

In general, the 1967 and 1963 minerals censuses figures were confined to separate totals for each crude and each prepared mineral. Where significant, separate shipments figures were also obtained for crude minerals going to preparation plants and those going to consumers.

Figures were collected on both quantity and value of shipments. Shipments include commercial shipments and transfers of products to other operations of the same company. For products which are used to a significant extent within the same establishment for power or heat, and for minerals mined and prepared in the same establishment, total production or separate data on production for such uses were collected. Typically, production was also collected for products for which there are usually significant differences between total production and total shipments as a result of stock changes.

For service industries, the amount received or due for services performed during 1967 was collected as a measure of output. For mine operators who also perform services, the amount received for such services was added to the total value of products shipped to determine total value of shipments and receipts for each establishment.

Table 3 of the individual industry reports provides the national and regional total shipments from all industries for each of the products primary to the industries covered in the report.

Shipments and Production--Shipments figures include all products physically shipped from the establishment during 1967, including material withdrawn from stockpiles and products shipped on consignment, whether or not sold in 1967. Prepared material or concentrates include prep-

aration from ores mined at the same establishment, purchased, received from other operations of the same company, or received for milling on a custom or toll basis. For products transferred to other establishments of the same company or prepared on a custom basis, the company was requested to include, in addition to direct costs of production, a reasonable proportion of company overhead and profits.

For industry and industry group totals, some duplication is introduced by the inclusion of materials transferred from one establishment to another for mineral preparation. Wherever value of shipments is shown without further specification, it represents gross shipments.

For years prior to 1954, data on shipments were not collected. Instead, the report forms requested data on the quantity and value of

production. In general, the data for these years were edited to represent net production, excluding duplications due to mining and later preparing the same material in the same industry.

Value Added in Mining--Since the 1954 census, this measure has been computed by subtracting the cost of supplies, etc., and purchased machinery from the sum of value of shipments and receipts and capital expenditures. This statistic avoids the duplication in value of shipments which results from the use of products of some establishments as supplies, energy sources, or materials by others. Moreover, it provides a measure of value added not only in mineral production, but also in the development of mineral properties. For these reasons, it is considered to be the best value measure for comparing the relative economic importance of mining among industries and geographic areas.

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U.S. DEPARTMENT OF COMMERCE
Bureau of the Census
Washington, D.C. 20233

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OFFICIAL BUSINESS

1967 Census of
MINERAL INDUSTRIES

INDUSTRY SERIES

U.S. DEPARTMENT OF COMMERCE / Bureau of the Census



preliminary report

MIC67(P)-10C-2

Manganese ores

SIC Code 1062

The Manganese Ores Industry includes establishments primarily engaged in mining, milling, or otherwise preparing manganese ores, such as pyrolusite, rhodochrosite, psilomelane, and manganite. This industry also includes treatment plants primarily engaged in processing imported ores. The mining of manganiferous ores valued chiefly for their iron content is classified in industry 1011, Iron Ores.

This report includes figures for administrative offices, warehouses, storage facilities, and other auxiliary units which service mining establishments. The classification of establishments for which data are tabulated in this report is based

upon the definitions contained in the 1967 edition of the Standard Industrial Classification (SIC) Manual.

In 1967, the value of products shipped and miscellaneous receipts of establishments classified in the Manganese Ores Industry amounted to \$3.0 million, a decrease of 58.9 percent compared with 1963. Value added in mining amounted to \$1.4 million in 1967, a decrease of 39.1 percent from 1963. Average employment in the industry showed a decrease of 50 percent from 1963 to a total of 0.1 thousand employees in 1967.

For an explanation of the terms used in the tables, see appendix at the end of this report.

TABLE 1. General Statistics: 1967 and Earlier Years

(See appendix, "Explanation of Terms")

(See appendix, "Explanation of Terms")

Year	Establishments		All employees		Production, development, and exploration workers			Value added in mining (million dollars)	Cost of supplies, etc., and purchased machinery installed (million dollars)	Value of shipments and receipts (million dollars)	Capital expenditures (million dollars)
	Total	With 20 employees or more	Number	Payroll	Number	Man-hours	Wages				
	(number)	(number)	(1,000)	(million dollars)	(1,000)	(millions)	(million dollars)				
	INDUSTRY 1062.--MANGANESE ORES										
1967.....	18	3	0.1	0.7	0.1	0.2	0.6	1.4	1.8	3.0	0.2
1963.....	17	5	0.2	1.1	0.2	0.4	0.8	2.3	5.3	7.2	0.4
1958.....	186	22	2.1	9.0	1.8	3.5	7.2	20.0	21.6	39.4	2.2
1954.....	367	24	2.6	9.3	2.3	4.3	7.6	18.1	17.5	32.4	3.3
1939 ¹	² 34	(NA)	0.5	0.6	0.5	1.0	0.5	0.7	0.2	³ 0.9	(NA)
1929 ¹	19	(NA)	0.4	0.5	0.4	(NA)	0.4	1.0	0.2	³ 1.2	(NA)
1919 ¹	35	(NA)	1.0	1.2	0.9	(NA)	1.1	1.5	0.7	2.2	(NA)
1909.....	10	(NA)	0.1	(Z)	0.1	(NA)	(Z)	(Z)	(Z)	(Z)	(NA)
1902 ¹	² 19	(NA)	0.2	0.1	⁴ 0.2	(NA)	0.1	0.2	(Z)	³ 0.2	(NA)
1889.....	(NA)	(NA)	0.4	0.1	(NA)	(NA)	(NA)	(NA)	(NA)	³ 0.2	(NA)
1880.....	² 6	(NA)	0.2	(Z)	⁵ 0.2	(NA)	(NA)	0.1	(Z)	³ 0.1	(NA)

(NA) Not available. (Z) Less than \$50 thousand.

¹Excludes nonproducing operations for which separate figures are not available, as follows: 1939, 2 mines; 1929, 3 establishments; 1919, 2 establishments; and 1902, 3 mines. It is not clear whether data for nonproducing operations in years prior to 1902 were included in the statistics shown for those years.

²Represents number of mines.

³Represents value of net shipment and receipts.

⁴Figures for average employment were converted to a 300-day basis for establishments which operated for a shorter period.

⁵Represents the average number employed during the time the mines were active.

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TABLE 2. General Statistics, by Geographic Areas: 1967 and 1963

(Geographic data withheld to avoid disclosing figures for individual companies)

Table 3. Production and Quantity and Value of Shipments by All Producers: 1967 and 1963

(Includes production and quantity and value of products reported not only by establishments classified in this industry, but also by establishments classified in other industries, and shipping these products as "secondary" products. See appendix under "Individual Products")

Product code	Product	1967			1963		
		Production (1,000 long tons)	Shipments including interplant transfers		Production (1,000 long tons)	Shipments including interplant transfers	
			Quantity (1,000 long tons)	Value (million dollars)		Quantity (1,000 long tons)	Value (million dollars)
1062- --	MANGANESE ORES, TOTAL.....	87.6	86.5	2.8	125.0	(D)	(D)
106212- 106220--	Production and shipments: Crude maganese ores..... Manganese treated ores, nodules, and sinter (including washed material).....	87.6	86.5	2.8	55.0	(D)	(D)
					70.0	89.0	6.8

(D) Withheld to avoid disclosing figures for individual companies.

Table 4. Selected Supplies, Minerals Received for Preparation, and Purchased Machinery Installed: 1967 and 1963

(Data withheld to avoid disclosing figures for individual companies)

SCOPE AND COVERAGE

This report is one of a series presenting preliminary information on industries and products from the 1967 Census of Mineral Industries. The data will be superseded in a final report which in turn will be included in Volume 1, Summary and Industry Statistics, 1967 Census of Mineral Industries. That report will include a comprehensive discussion of the concepts and definitions used in the census.

The census of mineral industries covers each mining establishment of firms in the United States with one or more paid employees. Firms which operate more than one establishment were required to file a separate report for each location. Companies which engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation and the activities were of significant size.

For oil and gas field operation and contract services, reports were required for units somewhat different from the "establishment" reporting unit used for other types of mining. Every concern which operated oil and gas wells, drilled such wells for its own account or for others, performed exploration work for oil or gas, or performed oil and gas field services for others during any part of calendar year 1967 was required to submit a separate report for each State or for each district within Texas, Louisiana, New Mexico, and California (however, information on employment, oil and gas production, and capital expenditures was requested by county). Further, concerns which supplied contract services for others were required to submit a separate report for each State. (In this instance also, information on employment, receipts for services, and capital expenditures was requested by county.)

In the 1967 census, for the first time, approximately 10,000 single-unit establishments with 1 to 4 employees were excused from filing reports. Under special arrangements which safeguarded the confidentiality of both tax and census records, limited data on payrolls, sales, and industry classification from the administrative records of the Social Security Administration and the Internal Revenue Service were made available to the Census Bureau for use in the 1967 censuses of business, manufactures, and mineral industries. Estimates for data other than payrolls and sales for these small establishments were constructed from industry averages. The effect on industry aggregates is slight in most industries. For mining as a whole, they account for less than 1 percent of value added. In industry 1062, these small establishments accounted for less than 3 percent of value added.

In the 1967 Census of Mineral Industries, data for all single-unit establishments without paid employees were excluded because of the difficulty in

developing a mailing list for these establishments. The exclusion of these establishments has had only a slight effect on industry aggregates for most industries. Data for establishments without employees were included in the 1963, 1958, and 1954 censuses if these establishments reported more than \$500 in one of the following data items: (1) value of shipments and receipts, (2) cost of supplies and purchased machinery, or (3) capital expenditures. In the 1963 census, establishments without paid employees for mining as a whole accounted for approximately 3 percent of value added, while they accounted for less than 1 percent of value added for industry 1062.

As in earlier censuses, a number of small establishments may have been misclassified as to industry. However, such possible misclassifications have no significant effect on the statistics other than the number of establishments. As indicated above, report forms were not mailed to very small establishments (less than 5 employees). The industry classifications for these establishments were assigned on the basis of brief descriptions of the general activity of the establishment. Where the description is incomplete or there are relatively fine lines of demarcation between industries or between mining and nonmining activity, the code assigned to an establishment could differ from that which would have been assigned on the basis of more complete product information. Therefore, the total establishment count should be reviewed as an approximation rather than a precise measurement. The counts of establishments with 20 or more employees are far more reliable than the total number of establishments.

More detailed figures for this industry will appear in the final census reports. Final reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each mineral industry and for each State are being issued. Final industry reports and final area reports will be published during the spring and fall of 1970. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C. 20233.

The 1967 Census of Mineral Industries is the 16th census of mineral establishments in the United States. For 1967, it was conducted jointly with the censuses of manufactures, retail trade, wholesale trade, and selected services under authority of Title 13 of the United States Code. Title 13 specified that a census of mineral industries be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7."

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Appendix

EXPLANATION OF TERMS

(For a more complete discussion of these terms and the method of compiling the Census of Mineral Industries, see the Introduction to the 1963 Census of Mineral Industries, Volume I.)

All Employees--All full-time and part-time employees on the payrolls of operating mineral establishments for any part of the pay period ended nearest the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of the corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The number of production workers is the average of those for mid-month payroll periods of March, May, August, and November. The "all employee" number is the average number of production workers plus the number of other employees in mid-March.

Payroll--This item includes all forms of compensation such as salaries, wages, commissions, dismissal pay, all bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' Social Security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of these establishments, if a corporation; it excludes payments to the proprietor or partners, if an unincorporated concern. Respondents were told that in reporting they could follow the definition of payroll used for calculating the Federal withholding tax.

Production, Development, and Exploration Worker Man-Hours--The total man-hours figures represent all man-hours that production, development, and exploration workers worked both on active days during which there was production or development work, and inactive days, when only watchmen, inspectors, repairmen, and other maintenance men were on duty. They include all man-hours worked or paid for at the mining operations, except hours paid for vacations, holidays, or sick leave, when the employee was not at the establishment. Included are actual overtime hours, not straight-time equivalent hours. Man-hours of working proprietors or partners are excluded.

Cost of Supplies, etc., and Purchased Machinery--The 1967 census report forms requested information on supplies and purchased machinery installed; fuels and electric energy used; and contract work done by others for each establishment. These items included charges to both the current and capital accounts. The figures reported were to include items used during 1967 whether purchased, withdrawn from inventories, or received from other establishments of the company. For selected supplies and fuels and for electric energy, both quantity and cost data were requested. The cost data refer to direct charges actually paid or payable (after discounts) for items used during the year. Freight charges and other direct charges incurred by the establishment in acquiring the items are included. Where the company's records did not show actual amounts used, they were asked to approximate use by adding purchases (or receipts) during the year to opening inventory and subtracting closing inventory.

Separate figures were obtained for (a) selected supplies, minerals received for preparation, and purchased machinery installed; (b) electric energy purchased; (c) purchased fuels used for heat, power, or the generation of electricity; (d) contract work done by others; and (e) products bought and resold in the same condition. Supplies and equipment used in mine development, plant expansion, and capitalized repairs, which are chargeable to fixed assets accounts, were included, as were supplies furnished without charge to contractors for use at the mining operation and supplies sold to employees for use at the establishment. No data on such costs as advertising, insurance, telephone, and research and consulting services of other establishments; or on overhead costs, such as depreciation charges, rent, interest, and royalties were included in this item.

Specific Supplies Used and Minerals Prepared--In addition to the total cost of supplies, etc., and purchased machinery which every establishment was required to report, information was also collected on the consumption of major supplies used in mining. These supplies inquiries were restricted to those supplies which were important parts of the cost of production, exploration, and development of a particular industry and for which cost information was available from the firms' records. Information regarding the specific supplies consumed is shown in table 4.

On report forms for almost all mineral industries, except the contract services industries, a uniform inquiry was included on minerals prepared at the reported establish-

ments. Figures were obtained on minerals prepared from three sources: (1) Crude minerals mined at the establishment (quantity); (2) crude minerals received from other establishments of the company or purchased from others (quantity and cost); and (3) crude minerals received for preparation on a custom or toll basis (quantity and estimated value).

Establishments consuming less than a specified amount (usually \$5,000) were not requested to report the cost of a supply separately. Also, the cost of supplies for small establishments for which administrative records were used were imputed as "not specified by kind." (See text for importance of administrative records in the industry.)

Capital Expenditures--In the 1967 census, mining companies were asked to report expenditures made during the year for development and exploration of mineral properties, for new construction, and for machinery purchased at their operations that was chargeable to fixed assets accounts of the mineral establishment and were of a type for which depreciation, depletion, or Office of Minerals Exploration accounts were ordinarily maintained. Capital expenditures during 1967 were to be determined as "additions completed during the year plus construction in progress at the end of the year minus construction in progress at the beginning of the year." Reported capital expenditures were to include work done on contract as well as by the mine forces. Expenditures for machinery and equipment were to include those made for replacement purposes, as well as those for additions to capacity. Excluded from such expenditures totals are costs of maintenance and repairs charged as current operating expense. Also excluded are expenditures for land and mineral rights.

Wherever applicable, separate figures were provided for expenditures for (a) development and exploration of mineral property, (b) preparation plant construction and other construction, (c) new machinery and equipment, and (d) used plant and used equipment acquired from others.

Value of Shipments--The amounts under value of shipments are the values, f.o.b., mine, well, or plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts such as receipts for contract work performed for others, installation and repair, sales of scrap, and sale of products bought and resold without further processing. Included are all items produced by

the establishments and sold, transferred to other plants of the same company, or shipped on consignment.

In the case of multiunit companies, the firm was requested to report the value of products transferred to other establishments of the same company at full economic or commercial value, i.e., include not only the direct costs of production but also a reasonable proportion of "all other costs" (including company overhead) and profit.

Individual Products--In the 1967 Census of Mineral Industries, information on output of about 225 individual mineral product items was collected.

In general, the 1967 and 1963 minerals censuses figures were confined to separate totals for each crude and each prepared mineral. Where significant, separate shipments figures were also obtained for crude minerals going to preparation plants and those going to consumers.

Figures were collected on both quantity and value of shipments. Shipments include commercial shipments and transfers of products to other operations of the same company. For products which are used to a significant extent within the same establishment for power or heat, and for minerals mined and prepared in the same establishment, total production or separate data on production for such uses were collected. Typically, production was also collected for products for which there are usually significant differences between total production and total shipments as a result of stock changes.

For service industries, the amount received or due for services performed during 1967 was collected as a measure of output. For mine operators who also perform services, the amount received for such services was added to the total value of products shipped to determine total value of shipments and receipts for each establishment.

Table 3 of the individual industry reports provides the national and regional total shipments from all industries for each of the products primary to the industries covered in the report.

Shipments and Production--Shipments figures include all products physically shipped from the establishment during 1967, including material withdrawn from stockpiles and products shipped on consignment, whether or not sold in 1967. Prepared material or concentrates include prep-

aration from ores mined at the same establishment, purchased, received from other operations of the same company, or received for milling on a custom or toll basis. For products transferred to other establishments of the same company or prepared on a custom basis, the company was requested to include, in addition to direct costs of production, a reasonable proportion of company overhead and profits.

For industry and industry group totals, some duplication is introduced by the inclusion of materials transferred from one establishment to another for mineral preparation. Wherever value of shipments is shown without further specification, it represents gross shipments.

For years prior to 1954, data on shipments were not collected. Instead, the report forms requested data on the quantity and value of

production. In general, the data for these years were edited to represent net production, excluding duplications due to mining and later preparing the same material in the same industry.

Value Added in Mining--Since the 1954 census, this measure has been computed by subtracting the cost of supplies, etc., and purchased machinery from the sum of value of shipments and receipts and capital expenditures. This statistic avoids the duplication in value of shipments which results from the use of products of some establishments as supplies, energy sources, or materials by others. Moreover, it provides a measure of value added not only in mineral production, but also in the development of mineral properties. For these reasons, it is considered to be the best value measure for comparing the relative economic importance of mining among industries and geographic areas.

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1967 Census of MINERAL INDUSTRIES

INDUSTRY SERIES



U.S. DEPARTMENT OF COMMERCE/Bureau of the Census

preliminary report

MIC67(P)-10C-3

Tungsten ores and Ferroalloy ores, n.e.c.

SIC Codes 1064 and 1069

The Tungsten Ores Industry includes establishments primarily engaged in mining, milling, or otherwise preparing tungsten ores, such as ferberite, huebnerite, scheelite, and wolframite. The Ferroalloy Ores, except Vanadium, Not Elsewhere Classified, Industry includes establishments primarily engaged in mining, milling, or otherwise preparing ores for use in the production of ferroalloys, not elsewhere classified, such as chromite, columbite, and nickel ore. The principal products of this industry in 1967 were molybdenum and nickel ores. Titanium ore, used sometimes for ferroalloying but principally for other purposes, is classified in industry 1093.

This report includes figures for administrative offices, warehouses, storage facilities, and other auxiliary units which service mining establishments. The classification of establishments

for which data are tabulated in this report is based upon the definitions contained in the 1967 edition of the Standard Industrial Classification (SIC) Manual.

In 1967, the value of products shipped and miscellaneous receipts of establishments classified in the Tungsten Ores, and Ferroalloy Ores, N.E.C., Industries amounted to \$104.5 million, an increase of 25 percent compared with 1963. Value added in mining amounted to \$71.9 million in 1967, an increase of 12 percent from 1963. Average employment in the industry showed an increase of 31 percent from 1963 to a total of 3.8 thousand employees in 1967.

For an explanation of the terms used in the tables, see appendix at the end of this report.

TABLE 1. General Statistics: 1967 and Earlier Years

(See appendix, "Explanation of Terms")

Year	Establishments		All employees		Production, development, and exploration workers			Value added in mining (million dollars)	Cost of supplies, etc., and purchased machinery installed (million dollars)	Value of shipments and receipts (million dollars)	Capital expenditures (million dollars)
	Total	With 20 employees or more	Number	Payroll	Number	Man-hours	Wages				
	(number)	(number)	(1,000)	(million dollars)	(1,000)	(millions)	(million dollars)				
	INDUSTRIES 1064 AND 1069.--TUNGSTEN ORES AND FERROALLOY ORES, N.E.C.										
1967.....	22	6	3.8	31.1	3.0	6.0	22.4	71.9	45.0	104.5	12.4
1963.....	41	6	2.9	19.2	2.4	4.5	14.4	64.1	24.9	83.4	5.4
1958.....	108	11	3.3	17.7	2.6	4.9	12.2	54.2	22.3	72.1	4.4
1954.....	719	27	5.5	29.2	4.6	10.8	23.7	89.3	44.2	121.3	12.3
1939.....	169	(NA)	1.9	3.4	1.7	3.7	2.6	15.7	3.1	18.8	(NA)

(NA) Not available.

¹Represents number of mines.²Represents net shipments and receipts.

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TABLE 2. General Statistics, by Geographic Areas: 1967 and 1963

(Geographic data withheld to avoid disclosing figures for individual companies.)

Table 3. Production and Quantity and Value of Shipments by All Producers, by Geographic Areas: 1967 and 1963

(Includes production and quantity and value of products reported not only by establishments classified in this industry, but also by establishments classified in other industries, and shipping these products as "secondary" products. See appendix under "Individual Products")

Product code	Product	1967			1963		
		Production (1,000 short tons)	Shipments including interplant transfers		Production (1,000 short tons)	Shipments including interplant transfers	
			Quantity (1,000 short tons)	Value (million dollars)		Quantity (1,000 short tons)	Value (million dollars)
1064- -- and 1069- --	Tungsten ores and ferroalloy ores, n.e.c., total.....	(X)	(X)	121.7	(X)	(X)	¹ 100.7

(X) Not applicable.
¹Represents net shipments.

Table 4. Selected Supplies, Minerals Received for Preparation, and Purchased Machinery Installed: 1967 and 1963

(See appendix, "Explanation of Terms")

Code	Supplies	Unit of measure	1967		1963	
			Quantity	Cost (million dollars)	Quantity	Cost (million dollars)
	INDUSTRIES 1064 AND 1069.--TUNGSTEN ORES AND FERROALLOY ORES, N.E.C.					
	Selected supplies, minerals received for preparation, and purchased machinery installed, total.....	.....	(X)	36.5	(X)	18.8
100097	Ores and concentrates received for preparation.....	Million short tons.....	(D)	(D)	(X)	2.6
353011	Purchased machinery installed.....	.....	(X)	(D)	(X)	1.3
970099	All other supplies.....	.....	(X)	(D)	}	15.0
976000	Selected supplies, minerals received for preparation, and purchased machinery installed, n.s.k. ¹.....	.....	(X)	0.1		

Note: Detail may not add to total due to independent rounding.

(D) Withheld to avoid disclosing individual company data. n.s.k. Not elsewhere classified. (X) Not applicable.
¹This item represents the total cost of supplies for establishments that did not report detailed supplies. For 1967 this includes estimates for establishments that were not mailed report forms.

SCOPE AND COVERAGE

This report is one of a series presenting preliminary information on industries and products from the 1967 Census of Mineral Industries. The data will be superseded in a final report which in turn will be included in Volume 1, Summary and Industry Statistics, 1967 Census of Mineral Industries. That report will include a comprehensive discussion of the concepts and definitions used in the census.

The census of mineral industries covers each mining establishment of firms in the United States with one or more paid employees. Firms which operate more than one establishment were required to file a separate report for each location. Companies which engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation and the activities were of significant size.

For oil and gas field operation and contract services, reports were required for units somewhat different from the "establishment" reporting unit used for other types of mining. Every concern which operated oil and gas wells, drilled such wells for its own account or for others, performed exploration work for oil or gas, or performed oil and gas field services for others during any part of calendar year 1967 was required to submit a separate report for each State or for each district within Texas, Louisiana, New Mexico, and California (however, information on employment, oil and gas production, and capital expenditures was requested by county). Further, concerns which supplied contract services for others were required to submit a separate report for each State. (In this instance also, information on employment, receipts for services, and capital expenditures was requested by county.)

In the 1967 census, for the first time, approximately 10,000 single-unit establishments with 1 to 4 employees were excused from filing reports. Under special arrangements which safeguarded the confidentiality of both tax and census records, limited data on payrolls, sales, and industry classification from the administrative records of the Social Security Administration and the Internal Revenue Service were made available to the Census Bureau for use in the 1967 censuses of business, manufactures, and mineral industries. Estimates for data other than payrolls and sales for these small establishments were constructed from industry averages. The effect on industry aggregates is slight in most industries. For mining as a whole, they account for less than 1 percent of value added. In industries 1064 and 1069, these small establishments accounted for less than 1 percent of value added.

In the 1967 Census of Mineral Industries, data for all single-unit establishments without paid employees were excluded because of the difficulty in

developing a mailing list for these establishments. The exclusion of these establishments has had only a slight effect on industry aggregates for most industries. Data for establishments without employees were included in the 1963, 1958, and 1954 censuses if these establishments reported more than \$500 in one of the following data items: (1) value of shipments and receipts, (2) cost of supplies and purchased machinery, or (3) capital expenditures. In the 1963 census, establishments without paid employees for mining as a whole accounted for approximately 3 percent of value added, while they accounted for less than 1 percent of value added for industries 1064 and 1069.

As in earlier censuses, a number of small establishments may have been misclassified as to industry. However, such possible misclassifications have no significant effect on the statistics other than the number of establishments. As indicated above, report forms were not mailed to very small establishments (less than 5 employees). The industry classifications for these establishments were assigned on the basis of brief descriptions of the general activity of the establishment. Where the description is incomplete or there are relatively fine lines of demarcation between industries or between mining and nonmining activity, the code assigned to an establishment could differ from that which would have been assigned on the basis of more complete product information. Therefore, the total establishment count should be reviewed as an approximation rather than a precise measurement. The counts of establishments with 20 or more employees are far more reliable than the total number of establishments.

More detailed figures for this industry will appear in the final census reports. Final reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each mineral industry and for each State are being issued. Final industry reports and final area reports will be published during the spring and fall of 1970. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C. 20233.

The 1967 Census of Mineral Industries is the 16th census of mineral establishments in the United States. For 1967, it was conducted jointly with the censuses of manufactures, retail trade, wholesale trade, and selected services under authority of Title 13 of the United States Code. Title 13 specified that a census of mineral industries be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7."

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Appendix

EXPLANATION OF TERMS

(For a more complete discussion of these terms and the method of compiling the Census of Mineral Industries, see the Introduction to the 1963 Census of Mineral Industries, Volume I.)

All Employees--All full-time and part-time employees on the payrolls of operating mineral establishments for any part of the pay period ended nearest the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of the corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The number of production workers is the average of those for mid-month payroll periods of March, May, August, and November. The "all employee" number is the average number of production workers plus the number of other employees in mid-March.

Payroll--This item includes all forms of compensation such as salaries, wages, commissions, dismissal pay, all bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' Social Security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of these establishments, if a corporation; it excludes payments to the proprietor or partners, if an unincorporated concern. Respondents were told that in reporting they could follow the definition of payroll used for calculating the Federal withholding tax.

Production, Development, and Exploration Worker Man-Hours--The total man-hours figures represent all man-hours that production, development, and exploration workers worked both on active days during which there was production or development work, and inactive days, when only watchmen, inspectors, repairmen, and other maintenance men were on duty. They include all man-hours worked or paid for at the mining operations, except hours paid for vacations, holidays, or sick leave, when the employee was not at the establishment. Included are actual overtime hours, not straight-time equivalent hours. Man-hours of working proprietors or partners are excluded.

Cost of Supplies, etc., and Purchased Machinery--The 1967 census report forms requested information on supplies and purchased machinery installed; fuels and electric energy used; and contract work done by others for each establishment. These items included charges to both the current and capital accounts. The figures reported were to include items used during 1967 whether purchased, withdrawn from inventories, or received from other establishments of the company. For selected supplies and fuels and for electric energy, both quantity and cost data were requested. The cost data refer to direct charges actually paid or payable (after discounts) for items used during the year. Freight charges and other direct charges incurred by the establishment in acquiring the items are included. Where the company's records did not show actual amounts used, they were asked to approximate use by adding purchases (or receipts) during the year to opening inventory and subtracting closing inventory.

Separate figures were obtained for (a) selected supplies, minerals received for preparation, and purchased machinery installed; (b) electric energy purchased; (c) purchased fuels used for heat, power, or the generation of electricity; (d) contract work done by others; and (e) products bought and resold in the same condition. Supplies and equipment used in mine development, plant expansion, and capitalized repairs, which are chargeable to fixed assets accounts, were included, as were supplies furnished without charge to contractors for use at the mining operation and supplies sold to employees for use at the establishment. No data on such costs as advertising, insurance, telephone, and research and consulting services of other establishments; or on overhead costs, such as depreciation charges, rent, interest, and royalties were included in this item.

Specific Supplies Used and Minerals Prepared--In addition to the total cost of supplies, etc., and purchased machinery which every establishment was required to report, information was also collected on the consumption of major supplies used in mining. These supplies inquiries were restricted to those supplies which were important parts of the cost of production, exploration, and development of a particular industry and for which cost information was available from the firms' records. Information regarding the specific supplies consumed is shown in table 4.

On report forms for almost all mineral industries, except the contract services industries, a uniform inquiry was included on minerals prepared at the reported establish-

ments. Figures were obtained on minerals prepared from three sources: (1) Crude minerals mined at the establishment (quantity); (2) crude minerals received from other establishments of the company or purchased from others (quantity and cost); and (3) crude minerals received for preparation on a custom or toll basis (quantity and estimated value).

Establishments consuming less than a specified amount (usually \$5,000) were not requested to report the cost of a supply separately. Also, the cost of supplies for small establishments for which administrative records were used were imputed as "not specified by kind." (See text for importance of administrative records in the industry.)

Capital Expenditures--In the 1967 census, mining companies were asked to report expenditures made during the year for development and exploration of mineral properties, for new construction, and for machinery purchased at their operations that was chargeable to fixed assets accounts of the mineral establishment and were of a type for which depreciation, depletion, or Office of Minerals Exploration accounts were ordinarily maintained. Capital expenditures during 1967 were to be determined as "additions completed during the year plus construction in progress at the end of the year minus construction in progress at the beginning of the year." Reported capital expenditures were to include work done on contract as well as by the mine forces. Expenditures for machinery and equipment were to include those made for replacement purposes, as well as those for additions to capacity. Excluded from such expenditures totals are costs of maintenance and repairs charged as current operating expense. Also excluded are expenditures for land and mineral rights.

Wherever applicable, separate figures were provided for expenditures for (a) development and exploration of mineral property, (b) preparation plant construction and other construction, (c) new machinery and equipment, and (d) used plant and used equipment acquired from others.

Value of Shipments--The amounts under value of shipments are the values, f.o.b., mine, well, or plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts such as receipts for contract work performed for others, installation and repair, sales of scrap, and sale of products bought and resold without further processing. Included are all items produced by

the establishments and sold, transferred to other plants of the same company, or shipped on consignment.

In the case of multiunit companies, the firm was requested to report the value of products transferred to other establishments of the same company at full economic or commercial value, i.e., include not only the direct costs of production but also a reasonable proportion of "all other costs" (including company overhead) and profit.

Individual Products--In the 1967 Census of Mineral Industries, information on output of about 225 individual mineral product items was collected.

In general, the 1967 and 1963 minerals censuses figures were confined to separate totals for each crude and each prepared mineral. Where significant, separate shipments figures were also obtained for crude minerals going to preparation plants and those going to consumers.

Figures were collected on both quantity and value of shipments. Shipments include commercial shipments and transfers of products to other operations of the same company. For products which are used to a significant extent within the same establishment for power or heat, and for minerals mined and prepared in the same establishment, total production or separate data on production for such uses were collected. Typically, production was also collected for products for which there are usually significant differences between total production and total shipments as a result of stock changes.

For service industries, the amount received or due for services performed during 1967 was collected as a measure of output. For mine operators who also perform services, the amount received for such services was added to the total value of products shipped to determine total value of shipments and receipts for each establishment.

Table 3 of the individual industry reports provides the national and regional total shipments from all industries for each of the products primary to the industries covered in the report.

Shipments and Production--Shipments figures include all products physically shipped from the establishment during 1967, including material withdrawn from stockpiles and products shipped on consignment, whether or not sold in 1967. Prepared material or concentrates include prep-

aration from ores mined at the same establishment, purchased, received from other operations of the same company, or received for milling on a custom or toll basis. For products transferred to other establishments of the same company or prepared on a custom basis, the company was requested to include, in addition to direct costs of production, a reasonable proportion of company overhead and profits.

For industry and industry group totals, some duplication is introduced by the inclusion of materials transferred from one establishment to another for mineral preparation. Wherever value of shipments is shown without further specification, it represents gross shipments.

For years prior to 1954, data on shipments were not collected. Instead, the report forms requested data on the quantity and value of

production. In general, the data for these years were edited to represent net production, excluding duplications due to mining and later preparing the same material in the same industry.

Value Added in Mining--Since the 1954 census, this measure has been computed by subtracting the cost of supplies, etc., and purchased machinery from the sum of value of shipments and receipts and capital expenditures. This statistic avoids the duplication in value of shipments which results from the use of products of some establishments as supplies, energy sources, or materials by others. Moreover, it provides a measure of value added not only in mineral production, but also in the development of mineral properties. For these reasons, it is considered to be the best value measure for comparing the relative economic importance of mining among industries and geographic areas.

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1967 Census of MINERAL INDUSTRIES

INDUSTRY SERIES

U.S. DEPARTMENT OF COMMERCE / Bureau of the Census

preliminary report

MIC67(P)-IOD-1

Metal mining services

SIC Code 1081

The Metal Mining Services Industry includes establishments primarily engaged in performing (for others on a contract, fee, or other basis) metal mining services, such as the removal of overburden, strip mining for metallic ores, prospect and test drilling, and mine exploration and development.

This report includes figures for administrative offices, warehouses, storage facilities, and other auxiliary units which service mining establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions contained in the 1967 edition

of the Standard Industrial Classification (SIC) Manual.

In 1967, the value of services performed and miscellaneous receipts of establishments classified in the Metal Mining Services Industry amounted to \$48.2 million, an increase of 48.8 percent compared with 1963. Value added in mining amounted to \$33.7 million in 1967, an increase of 36.4 percent from 1963. Average employment in the industry showed an increase of 18.2 percent from 1963 to a total of 2.6 thousand employees in 1967.

For an explanation of the terms used in the tables, see appendix at the end of this report.

TABLE 1. General Statistics: 1967 and Earlier Years

(See appendix, "Explanation of Terms")

Year	Establishments		All employees		Production, development, and exploration workers			Value added in mining	Cost of supplies, etc., and purchased machinery installed	Value of shipments and receipts	Capital expenditures
	Total	With 20 employees or more	Number	Payroll	Number	Man-hours	Wages				
	(number)	(number)	(1,000)	(million dollars)	(1,000)	(millions)	(million dollars)	(million dollars)	(million dollars)	(million dollars)	
	INDUSTRY 1081.--METAL MINING SERVICES										
1967.....	141	31	2.6	18.8	2.3	4.4	15.7	33.7	16.9	48.2	2.4
1963.....	83	17	2.2	13.9	1.9	4.0	11.5	24.7	10.7	32.4	3.0
1958.....	95	23	2.2	12.1	2.0	4.3	10.6	22.9	10.8	32.4	1.3
1954.....	114	26	3.1	15.3	2.9	6.5	13.9	26.7	14.4	38.7	2.4
1939.....	69	(NA)	0.7	1.0	0.6	1.3	0.9	1.8	0.5	¹ 2.4	(Z)
1902.....	(NA)	(NA)	² 2.6	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	¹ 1.4	(NA)

(NA) Not available. (Z) Less than \$50 thousand.

¹Represents value of net shipments and receipts.

²Represents number of employees engaged in contract work and payments for contract work as reported by companies operating metal mines.

TABLE 2. General Statistics, by Geographic Areas: 1967 and 1963

(Geographic data withheld to avoid disclosing figures for individual companies)

TABLE 3. Value of Receipts for Primary Services Performed: 1967 and 1963

Code	Type of service	Total receipts for services (million dollars)	
		1967 ¹	1963
	UNITED STATES		
1081- --	RECEIPTS FOR SERVICES, TOTAL.....	44.9	31.1
10818 01	Exploration work, including geophysical and other exploratory surveying.....	8.0	7.5
10818 03	Prospect and test drilling.....	24.3	8.0
10818 05	Other drilling, including blasting.....	12.6	0.1
10818 07	Sinking mine shafts and driving mine tunnels.....		3.2
10818 02	Stripping overburden.....		6.6
10818 04	Mining minerals for others.....		5.8

Note: Detail may not add to totals due to independent rounding.

¹Excludes receipts for services performed for metal mining establishments by companies not classified in the metal mining services industry.

TABLE 4. Selected Supplies and Purchased Machinery Installed: 1967 and 1963

(See appendix, "Explanation of Terms")

(see appendix, "Explanation of Codes")

Code	Supplies	Unit of measure	1967		1963	
			Quantity	Cost (million dollars)	Quantity	Cost (million dollars)
	INDUSTRY 1081.--METAL MINING SERVICES					
	Selected supplies and purchased machinery installed, total.....		(X)	14.8	(X)	¹ 9.0
353011	Purchased machinery installed.....		(X)	1.7	(X)	3.8
970099	All other supplies.....		(X)	11.5	}	¹ 5.2
976000	Selected supplies and purchased machinery installed, n.s.k. ²		(X)	1.6		

Note: Detail may not add to totals due to independent rounding.

n.s.k. Not specified by kind. (X) Not applicable.

¹Includes the cost of products bought and resold without further processing.²This item represents the total cost of material for establishments that did not report detailed supplies data. For 1967 this also includes estimates for establishments that were not mailed report forms.

SCOPE AND COVERAGE

This report is one of a series presenting preliminary information on industries and products from the 1967 Census of Mineral Industries. The data will be superseded in a final report which in turn will be included in Volume 1, Summary and Industry Statistics, 1967 Census of Mineral Industries. That report will include a comprehensive discussion of the concepts and definitions used in the census.

The census of mineral industries covers each mining establishment of firms in the United States with one or more paid employees. Firms which operate more than one establishment were required to file a separate report for each location. Companies which engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation and the activities were of significant size.

For oil and gas field operation and contract services, reports were required for units somewhat different from the "establishment" reporting unit used for other types of mining. Every concern which operated oil and gas wells, drilled such wells for its own account or for others, performed exploration work for oil or gas, or performed oil and gas field services for others during any part of calendar year 1967 was required to submit a separate report for each State or for each district within Texas, Louisiana, New Mexico, and California (however, information on employment, oil and gas production, and capital expenditures was requested by county). Further, concerns which supplied contract services for others were required to submit a separate report for each State. (In this instance also, information on employment, receipts for services, and capital expenditures was requested by county.)

In the 1967 census, for the first time, approximately 10,000 single-unit establishments with 1 to 4 employees were excused from filing reports. Under special arrangements which safeguarded the confidentiality of both tax and census records, limited data on payrolls, sales, and industry classification from the administrative records of the Social Security Administration and the Internal Revenue Service were made available to the Census Bureau for use in the 1967 censuses of business, manufactures, and mineral industries. Estimates for data other than payrolls and sales for these small establishments were constructed from industry averages. The effect on industry aggregates is slight in most industries. For mining as a whole, they account for less than 1 percent of value added. In industry 1081, these small establishments accounted for approximately 4 percent of value added.

In the 1967 Census of Mineral Industries, data for all single-unit establishments without paid employees were excluded because of the difficulty in

developing a mailing list for these establishments. The exclusion of these establishments has had only a slight effect on industry aggregates for most industries. Data for establishments without employees were included in the 1963, 1958, and 1954 censuses if these establishments reported more than \$500 in one of the following data items: (1) value of shipments and receipts, (2) cost of supplies and purchased machinery, or (3) capital expenditures. In the 1963 census, establishments without paid employees for mining as a whole accounted for approximately 3 percent of value added, while they accounted for approximately 1 percent of value added for industry 1081.

As in earlier censuses, a number of small establishments may have been misclassified as to industry. However, such possible misclassifications have no significant effect on the statistics other than the number of establishments. As indicated above, report forms were not mailed to very small establishments (less than 5 employees). The industry classifications for these establishments were assigned on the basis of brief descriptions of the general activity of the establishment. Where the description is incomplete or there are relatively fine lines of demarcation between industries or between mining and nonmining activity, the code assigned to an establishment could differ from that which would have been assigned on the basis of more complete product information. Therefore, the total establishment count should be reviewed as an approximation rather than a precise measurement. The counts of establishments with 20 or more employees are far more reliable than the total number of establishments.

More detailed figures for this industry will appear in the final census reports. Final reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each mineral industry and for each State are being issued. Final industry reports and final area reports will be published during the spring and fall of 1970. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C. 20233.

The 1967 Census of Mineral Industries is the 16th census of mineral establishments in the United States. For 1967, it was conducted jointly with the censuses of manufactures, retail trade, wholesale trade, and selected services under authority of Title 13 of the United States Code. Title 13 specified that a census of mineral industries be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7."

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Appendix

EXPLANATION OF TERMS

(For a more complete discussion of these terms and the method of compiling the Census of Mineral Industries, see the Introduction to the 1963 Census of Mineral Industries, Volume I.)

All Employees--All full-time and part-time employees on the payrolls of operating mineral establishments for any part of the pay period ended nearest the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of the corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The number of production workers is the average of those for mid-month payroll periods of March, May, August, and November. The "all employee" number is the average number of production workers plus the number of other employees in mid-March.

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Cost of Supplies, etc., and Purchased Machinery--The 1967 census report forms requested information on supplies and purchased machinery installed; fuels and electric energy used; and contract work done by others for each establishment. These items included charges to both the current and capital accounts. The figures reported were to include items used during 1967 whether purchased, withdrawn from inventories, or received from other establishments of the company. For selected supplies and fuels and for electric energy, both quantity and cost data were requested. The cost data refer to direct charges actually paid or payable (after discounts) for items used during the year. Freight charges and other direct charges incurred by the establishment in acquiring the items are included. Where the company's records did not show actual amounts used, they were asked to approximate use by adding purchases (or receipts) during the year to opening inventory and subtracting closing inventory.

Separate figures were obtained for (a) selected supplies, minerals received for preparation, and purchased machinery installed; (b) electric energy purchased; (c) purchased fuels used for heat, power, or the generation of electricity; (d) contract work done by others; and (e) products bought and resold in the same condition. Supplies and equipment used in mine development, plant expansion, and capitalized repairs, which are chargeable to fixed assets accounts, were included, as were supplies furnished without charge to contractors for use at the mining operation and supplies sold to employees for use at the establishment. No data on such costs as advertising, insurance, telephone, and research and consulting services of other establishments; or on overhead costs, such as depreciation charges, rent, interest, and royalties were included in this item.

Specific Supplies Used and Minerals Prepared--In addition to the total cost of supplies, etc., and purchased machinery which every establishment was required to report, information was also collected on the consumption of major supplies used in mining. These supplies inquiries were restricted to those supplies which were important parts of the cost of production, exploration, and development of a particular industry and for which cost information was available from the firms' records. Information regarding the specific supplies consumed is shown in table 4.

On report forms for almost all mineral industries, except the contract services industries, a uniform inquiry was included on minerals prepared at the reported establish-

ments. Figures were obtained on minerals prepared from three sources: (1) Crude minerals mined at the establishment (quantity); (2) crude minerals received from other establishments of the company or purchased from others (quantity and cost); and (3) crude minerals received for preparation on a custom or toll basis (quantity and estimated value).

Establishments consuming less than a specified amount (usually \$5,000) were not requested to report the cost of a supply separately. Also, the cost of supplies for small establishments for which administrative records were used were imputed as "not specified by kind." (See text for importance of administrative records in the industry.)

Capital Expenditures--In the 1967 census, mining companies were asked to report expenditures made during the year for development and exploration of mineral properties, for new construction, and for machinery purchased at their operations that was chargeable to fixed assets accounts of the mineral establishment and were of a type for which depreciation, depletion, or Office of Minerals Exploration accounts were ordinarily maintained. Capital expenditures during 1967 were to be determined as "additions completed during the year plus construction in progress at the end of the year minus construction in progress at the beginning of the year." Reported capital expenditures were to include work done on contract as well as by the mine forces. Expenditures for machinery and equipment were to include those made for replacement purposes, as well as those for additions to capacity. Excluded from such expenditures totals are costs of maintenance and repairs charged as current operating expense. Also excluded are expenditures for land and mineral rights.

Wherever applicable, separate figures were provided for expenditures for (a) development and exploration of mineral property, (b) preparation plant construction and other construction, (c) new machinery and equipment, and (d) used plant and used equipment acquired from others.

Value of Shipments--The amounts under value of shipments are the values, f.o.b., mine, well, or plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts such as receipts for contract work performed for others, installation and repair, sales of scrap, and sale of products bought and resold without further processing. Included are all items produced by

the establishments and sold, transferred to other plants of the same company, or shipped on consignment.

In the case of multiunit companies, the firm was requested to report the value of products transferred to other establishments of the same company at full economic or commercial value, i.e., include not only the direct costs of production but also a reasonable proportion of "all other costs" (including company overhead) and profit.

Individual Products--In the 1967 Census of Mineral Industries, information on output of about 225 individual mineral product items was collected.

In general, the 1967 and 1963 minerals censuses figures were confined to separate totals for each crude and each prepared mineral. Where significant, separate shipments figures were also obtained for crude minerals going to preparation plants and those going to consumers.

Figures were collected on both quantity and value of shipments. Shipments include commercial shipments and transfers of products to other operations of the same company. For products which are used to a significant extent within the same establishment for power or heat, and for minerals mined and prepared in the same establishment, total production or separate data on production for such uses were collected. Typically, production was also collected for products for which there are usually significant differences between total production and total shipments as a result of stock changes.

For service industries, the amount received or due for services performed during 1967 was collected as a measure of output. For mine operators who also perform services, the amount received for such services was added to the total value of products shipped to determine total value of shipments and receipts for each establishment.

Table 3 of the individual industry reports provides the national and regional total shipments from all industries for each of the products primary to the industries covered in the report.

Shipments and Production--Shipments figures include all products physically shipped from the establishment during 1967, including material withdrawn from stockpiles and products shipped on consignment, whether or not sold in 1967. Prepared material or concentrates include prep-

aration from ores mined at the same establishment, purchased, received from other operations of the same company, or received for milling on a custom or toll basis. For products transferred to other establishments of the same company or prepared on a custom basis, the company was requested to include, in addition to direct costs of production, a reasonable proportion of company overhead and profits.

For industry and industry group totals, some duplication is introduced by the inclusion of materials transferred from one establishment to another for mineral preparation. Wherever value of shipments is shown without further specification, it represents gross shipments.

For years prior to 1954, data on shipments were not collected. Instead, the report forms requested data on the quantity and value of

production. In general, the data for these years were edited to represent net production, excluding duplications due to mining and later preparing the same material in the same industry.

Value Added in Mining--Since the 1954 census, this measure has been computed by subtracting the cost of supplies, etc., and purchased machinery from the sum of value of shipments and receipts and capital expenditures. This statistic avoids the duplication in value of shipments which results from the use of products of some establishments as supplies, energy sources, or materials by others. Moreover, it provides a measure of value added not only in mineral production, but also in the development of mineral properties. For these reasons, it is considered to be the best value measure for comparing the relative economic importance of mining among industries and geographic areas.

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U.S. DEPARTMENT OF COMMERCE
Bureau of the Census
Washington, D.C. 20233

OFFICIAL BUSINESS



POSTAGE AND FEES PAID
U.S. DEPARTMENT OF COMMERCE



1967 Census of MINERAL INDUSTRIES

INDUSTRY SERIES



U.S. DEPARTMENT OF COMMERCE / Bureau of the Census

preliminary report

MIC67(P)-10D-2

Mercury ores and Metallic ores, n.e.c.

SIC Codes 1092 and 1099

The Mercury Ores Industry includes establishments primarily engaged in mining, milling, or otherwise preparing mercury ores and mercury metal. This industry includes the production of metallic mercury by furnacing or retorting at the mine site.

The Metallic Minerals (Ores), Not Elsewhere Classified, Industry includes establishments primarily engaged in mining, milling, or otherwise preparing miscellaneous metallic minerals (ores), not elsewhere classified, such as antimony, beryllium, palladium, platinum, tin, and rare-earth ores.

This report includes figures for administrative offices, warehouses, storage facilities, and other auxiliary units which service mining establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions contained in the 1967 edition of the Standard Industrial Classification (SIC) Manual.

In 1967, the value of products shipped and miscellaneous receipts of establishments classified in the Mercury Ores Industry amounted to \$10.8 million, an increase of 191.9 percent compared with 1963. Value added in mining amounted to \$8.6 million in 1967, an increase of 230.8 percent from 1963. Average employment in the industry showed an increase of 133.3 percent from 1963 to a total of 0.7 thousand employees in 1967.

In 1967, the value of products shipped and miscellaneous receipts of establishments classified in the Metallic Ores, N.E.C., Industry amounted to \$14.8 million, an increase of 393.3 percent compared with 1963. Value added in mining amounted to \$7.1 million in 1967, an increase of 343.8 percent from 1963. Average employment in the industry showed an increase of 50.0 percent from 1963 to a total of 0.3 thousand employees in 1967.

For an explanation of the terms used in the tables, see appendix at the end of this report.

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1967 CENSUS OF MINERAL INDUSTRIES

TABLE 1. General Statistics: 1967 and Earlier Years

(See appendix, "Explanation of Terms")

Year	Establishments		All employees		Production, development, and exploration workers			Value added in mining (million dollars)	Cost of supplies, etc., and purchased machinery installed (million dollars)	Value of shipments and receipts (million dollars)	Capital expenditures (million dollars)
	Total	With 20 employees or more	Number	Payroll	Number	Man-hours	Wages				
	(number)	(number)	(1,000)	(million dollars)	(1,000)	(millions)	(million dollars)				
	INDUSTRY 1092. --MERCURY ORES										
1967.....	62	9	0.7	4.7	0.6	1.2	3.8	8.6	(D)	10.8	(D)
1963.....	49	3	0.3	1.8	0.3	0.6	1.6	2.6	1.4	3.7	0.3
1958 ¹	79	9	0.7	3.1	0.6	1.2	2.6	7.1	2.4	8.6	0.9
1954 ¹	87	5	0.5	2.0	0.4	0.8	1.6	3.4	1.7	4.5	0.5
1939 ¹	² 69	(NA)	0.7	0.9	0.6	1.4	0.8	1.4	0.4	⁵ 1.8	(NA)
1929 ³	40	(NA)	1.1	1.6	1.0	(NA)	1.4	2.0	1.4	⁵ 2.8	(NA)
1919 ³	26	(NA)	0.8	1.0	0.7	(NA)	0.8	1.2	0.6	1.8	(NA)
1909.....	30	(NA)	0.7	0.6	0.6	(NA)	0.5	0.7	0.2	0.9	(NA)
1902.....	² 51	(NA)	1.5	1.1	⁴ 1.4	(NA)	0.9	1.2	0.4	⁵ 1.6	(NA)
1889 ³	² 11	(NA)	1.0	0.6	⁶ 0.9	(NA)	0.6	1.0	0.2	⁵ 1.2	(NA)
1870.....	4	(NA)	0.8	0.6	(NA)	(NA)	(NA)	0.8	(Z)	⁵ 0.8	(NA)
1860.....	3	(NA)	0.3	0.2	(NA)	(NA)	(NA)	0.2	0.2	⁵ 0.4	(NA)
	INDUSTRY 1099. --METALLIC ORES, N. E. C. ⁷										
1967.....	38	4	0.3	2.4	0.3	0.6	2.0	7.1	(D)	14.8	(D)
1963.....	25	2	0.2	1.0	0.1	0.2	0.7	1.6	2.0	3.0	0.6
1958 ¹	66	2	0.2	1.1	0.2	0.3	0.9	1.8	1.9	3.0	0.7
1954 ¹	47	2	0.1	0.4	0.1	0.2	0.3	0.8	1.6	1.3	1.1
1902.....	² 23	(NA)	0.1	(Z)	⁴ 0.1	(NA)	(Z)	0.1	-	⁵ 0.1	(NA)
1889 ³	(NA)	(NA)	0.4	0.2	(NA)	(NA)	(NA)	(³)	0.1	⁵ (Z)	(NA)

- Represents zero. (D) Not shown to avoid disclosing individual company data. (NA) Not available. (Z) Less than \$50 thousand.

¹Excludes data for Alaska. In 1958 and 1954, 2 establishments in Alaska were reported in the Mercury Ores Industry; and in 1958, 2, and in 1954, 5 establishments in the Metallic Ores, N.E.C., Industry.²Represents number of mines.³Excludes nonproducing operations as follows: 1929, 13 establishments; 1919, 2 establishments; and 1889, 6 mines.⁴Figures for the average number of production, development, and exploration workers were converted to a 300-day basis for establishments which operated for a shorter period.⁵Represents net value of shipments and receipts.⁶Represents the average number during the times the mines were active.⁷In addition to the years shown, metallic ores, n.e.c. establishments were reported as follows: 1939, 1; 1929, 1; and 1909, 3.⁸Represents antimony operations and selected figures for 678 nonproducing tin openings.⁹Not shown since the cost of supplies and contract work exceeds the value of shipments and receipts.

TABLE 2. General Statistics, by Geographic Areas: 1967 and 1963

(Geographic data withheld to avoid disclosing figures for individual companies)

Table 3. Production and Quantity and Value of Shipments by All Producers: 1967 and 1963

(Includes production and quantity and value of products reported not only by establishments classified in this industry, but also by establishments classified in other industries, and shipping these products as "secondary" products. See appendix under "Individual Products")

Product code	Product	Unit of measure	1967			1963		
			Production	Shipments including interplant transfers		Production	Shipments including interplant transfers	
				Quantity	Value (million dollars)		Quantity	Value (million dollars)
1092- --	MERCURY ORES, TOTAL.....	.....	(X)	(X)	(D)	(X)	(X)	(D)
10921 01	Crude mercury ores.....	1,000 short tons.....	373.8	(D)	(D)	118.7	(D)	(D)
10923 01	Mercury metal.....	1,000 flasks (76 lbs.)..	22.0	22.7	10.9	19.2	18.8	3.6
1099- --	METALLIC ORES, N.E.C., TOTAL.....	.....	(X)	(X)	16.3	(X)	(X)	5.2
10992 01 and 10993 01	Metallic ores, n.e.c., concentrates.....	.....	(X)	(X)	16.3	(X)	(X)	5.2

(D) Withheld to avoid disclosing individual company data.

(X) Not applicable.

Table 4. Selected Supplies, Minerals Received for Preparation, and Purchased Machinery Installed: 1967 and 1963

(See appendix, "Explanation of Terms")

Code	Supplies	Unit of measure	1967		1963	
			Quantity	Cost (million dollars)	Quantity	Cost (million dollars)
	INDUSTRIES 1092 AND 1099.--MERCURY ORES AND METALLIC ORES, N.E.C.					
	Selected supplies, minerals received for preparation, and purchased machinery installed, total.....	.....	(X)	12.1	(X)	¹ 2.8
100097	Ores for preparation:					
	Crude ores received for preparation.....	1,000 short tons.	667.6	(²)	(NA)	0.6
100097	Crude ores produced and prepared at same establishment.....	do.....		(X)	(NA)	(X)
353011	Purchased machinery installed.....	.....	(X)	(²)	(X)	0.4
	Supplies used:					
289211 and 289212	Explosives.....	1,000 pounds.....	(NA)	0.1	(X)	¹ 1.8
970099	All other supplies.....	.....	(X)	² 11.5		
976000	Selected supplies, minerals received for preparation, and purchased machinery installed, n.s.k. ³.....	.....	(X)	0.5		

(NA) Not available. n.s.k. Not specified by kind. (X) Not applicable.

¹Includes the cost of products bought and resold without further processing.²Cost of crude ores received for preparation and purchased machinery installed included with all other supplies to avoid disclosing individual company data.³This item represents the total cost of supplies for establishments that did not report detailed supplies data. For 1967, this also includes estimates for establishments that were not mailed report forms.

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SCOPE AND COVERAGE

This report is one of a series presenting preliminary information on industries and products from the 1967 Census of Mineral Industries. The data will be superseded in a final report which in turn will be included in Volume I, Summary and Industry Statistics, 1967 Census of Mineral Industries. That report will include a comprehensive discussion of the concepts and definitions used in the census.

The census of mineral industries covers each mining establishment of firms in the United States with one or more paid employees. Firms which operate more than one establishment were required to file a separate report for each location. Companies which engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation and the activities were of significant size.

For oil and gas field operation and contract services, reports were required for units somewhat different from the "establishment" reporting unit used for other types of mining. Every concern which operated oil and gas wells, drilled such wells for its own account or for others, performed exploration work for oil or gas, or performed oil and gas field services for others during any part of calendar year 1967 was required to submit a separate report for each State or for each district within Texas, Louisiana, New Mexico, and California (however, information on employment, oil and gas production, and capital expenditures was requested by county). Further, concerns which supplied contract services for others were required to submit a separate report for each State. (In this instance also, information on employment, receipts for services, and capital expenditures was requested by county.)

In the 1967 census, for the first time, approximately 10,000 single-unit establishments with 1 to 4 employees were excused from filing reports. Under special arrangements which safeguarded the confidentiality of both tax and census records, limited data on payrolls, sales, and industry classification from the administrative records of the Social Security Administration and the Internal Revenue Service were made available to the Census Bureau for use in the 1967 censuses of business, manufactures, and mineral industries. Estimates for data other than payrolls and sales for these small establishments were constructed from industry averages. The effect on industry aggregates is slight in most industries. For mining as a whole, they accounted for less than 1 percent of value added. In industry 1092, these small establishments accounted for less than 4 percent of value added, and in industry 1099 these small establishments accounted for less than 3 percent of value added.

In the 1967 Census of Mineral Industries, data for all single-unit establishments without paid employees were excluded because of the difficulty in

developing a mailing list for these establishments. The exclusion of these establishments has had only a slight effect on industry aggregates for most industries. Data for establishments without employees were included in the 1963, 1958, and 1954 censuses if these establishments reported more than \$500 in one of the following data items: (1) value of shipments and receipts, (2) cost of supplies and purchased machinery, or (3) capital expenditures. In the 1963 census, establishments without paid employees for mining as a whole accounted for approximately 3 percent of value added, while they accounted for less than 5 percent of value added for industry 1092, and less than 1 percent of value added for industry 1099.

As in earlier censuses, a number of small establishments may have been misclassified as to industry. However, such possible misclassifications have no significant effect on the statistics other than the number of establishments. As indicated above, report forms were not mailed to very small establishments (less than 5 employees). The industry classifications for these establishments were assigned on the basis of brief descriptions of the general activity of the establishment. Where the description is incomplete or there are relatively fine lines of demarcation between industries or between mining and nonmining activity, the code assigned to an establishment could differ from that which would have been assigned on the basis of more complete product information. Therefore, the total establishment count should be reviewed as an approximation rather than a precise measurement. The counts of establishments with 20 or more employees are far more reliable than the total number of establishments.

More detailed figures for this industry will appear in the final census reports. Final reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each mineral industry and for each State are being issued. Final industry reports and final area reports will be published during the spring and fall of 1970. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C. 20233.

The 1967 Census of Mineral Industries is the 16th census of mineral establishments in the United States. For 1967, it was conducted jointly with the censuses of manufactures, retail trade, wholesale trade, and selected services under authority of Title 13 of the United States Code. Title 13 specified that a census of mineral industries be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7."

Appendix

EXPLANATION OF TERMS

(For a more complete discussion of these terms and the method of compiling the Census of Mineral Industries, see the Introduction to the 1963 Census of Mineral Industries, Volume I.)

All Employees--All full-time and part-time employees on the payrolls of operating mineral establishments for any part of the pay period ended nearest the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of the corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The number of production workers is the average of those for mid-month payroll periods of March, May, August, and November. The "all employee" number is the average number of production workers plus the number of other employees in mid-March.

Payroll--This item includes all forms of compensation such as salaries, wages, commissions, dismissal pay, all bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' Social Security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of these establishments, if a corporation; it excludes payments to the proprietor or partners, if an unincorporated concern. Respondents were told that in reporting they could follow the definition of payroll used for calculating the Federal withholding tax.

Production, Development, and Exploration Worker Man-Hours--The total man-hours figures represent all man-hours that production, development, and exploration workers worked both on active days during which there was production or development work, and inactive days, when only watchmen, inspectors, repairmen, and other maintenance men were on duty. They include all man-hours worked or paid for at the mining operations, except hours paid for vacations, holidays, or sick leave, when the employee was not at the establishment. Included are actual overtime hours, not straight-time equivalent hours. Man-hours of working proprietors or partners are excluded.

Cost of Supplies, etc., and Purchased Machinery--The 1967 census report forms requested information on supplies and purchased machinery installed; fuels and electric energy used; and contract work done by others for each establishment. These items included charges to both the current and capital accounts. The figures reported were to include items used during 1967 whether purchased, withdrawn from inventories, or received from other establishments of the company. For selected supplies and fuels and for electric energy, both quantity and cost data were requested. The cost data refer to direct charges actually paid or payable (after discounts) for items used during the year. Freight charges and other direct charges incurred by the establishment in acquiring the items are included. Where the company's records did not show actual amounts used, they were asked to approximate use by adding purchases (or receipts) during the year to opening inventory and subtracting closing inventory.

Separate figures were obtained for (a) selected supplies, minerals received for preparation, and purchased machinery installed; (b) electric energy purchased; (c) purchased fuels used for heat, power, or the generation of electricity; (d) contract work done by others; and (e) products bought and resold in the same condition. Supplies and equipment used in mine development, plant expansion, and capitalized repairs, which are chargeable to fixed assets accounts, were included, as were supplies furnished without charge to contractors for use at the mining operation and supplies sold to employees for use at the establishment. No data on such costs as advertising, insurance, telephone, and research and consulting services of other establishments; or on overhead costs, such as depreciation charges, rent, interest, and royalties were included in this item.

Specific Supplies Used and Minerals Prepared--In addition to the total cost of supplies, etc., and purchased machinery which every establishment was required to report, information was also collected on the consumption of major supplies used in mining. These supplies inquiries were restricted to those supplies which were important parts of the cost of production, exploration, and development of a particular industry and for which cost information was available from the firms' records. Information regarding the specific supplies consumed is shown in table 4.

On report forms for almost all mineral industries, except the contract services industries, a uniform inquiry was included on minerals prepared at the reported establish-

ments. Figures were obtained on minerals prepared from three sources: (1) Crude minerals mined at the establishment (quantity); (2) crude minerals received from other establishments of the company or purchased from others (quantity and cost); and (3) crude minerals received for preparation on a custom or toll basis (quantity and estimated value).

Establishments consuming less than a specified amount (usually \$5,000) were not requested to report the cost of a supply separately. Also, the cost of supplies for small establishments for which administrative records were used were imputed as "not specified by kind." (See text for importance of administrative records in the industry.)

Capital Expenditures--In the 1967 census, mining companies were asked to report expenditures made during the year for development and exploration of mineral properties, for new construction, and for machinery purchased at their operations that was chargeable to fixed assets accounts of the mineral establishment and were of a type for which depreciation, depletion, or Office of Minerals Exploration accounts were ordinarily maintained. Capital expenditures during 1967 were to be determined as "additions completed during the year plus construction in progress at the end of the year minus construction in progress at the beginning of the year." Reported capital expenditures were to include work done on contract as well as by the mine forces. Expenditures for machinery and equipment were to include those made for replacement purposes, as well as those for additions to capacity. Excluded from such expenditures totals are costs of maintenance and repairs charged as current operating expense. Also excluded are expenditures for land and mineral rights.

Wherever applicable, separate figures were provided for expenditures for (a) development and exploration of mineral property, (b) preparation plant construction and other construction, (c) new machinery and equipment, and (d) used plant and used equipment acquired from others.

Value of Shipments--The amounts under value of shipments are the values, f.o.b., mine, well, or plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts such as receipts for contract work performed for others, installation and repair, sales of scrap, and sale of products bought and resold without further processing. Included are all items produced by

the establishments and sold, transferred to other plants of the same company, or shipped on consignment.

In the case of multiunit companies, the firm was requested to report the value of products transferred to other establishments of the same company at full economic or commercial value, i.e., include not only the direct costs of production but also a reasonable proportion of "all other costs" (including company overhead) and profit.

Individual Products--In the 1967 Census of Mineral Industries, information on output of about 225 individual mineral product items was collected.

In general, the 1967 and 1963 minerals censuses figures were confined to separate totals for each crude and each prepared mineral. Where significant, separate shipments figures were also obtained for crude minerals going to preparation plants and those going to consumers.

Figures were collected on both quantity and value of shipments. Shipments include commercial shipments and transfers of products to other operations of the same company. For products which are used to a significant extent within the same establishment for power or heat, and for minerals mined and prepared in the same establishment, total production or separate data on production for such uses were collected. Typically, production was also collected for products for which there are usually significant differences between total production and total shipments as a result of stock changes.

For service industries, the amount received or due for services performed during 1967 was collected as a measure of output. For mine operators who also perform services, the amount received for such services was added to the total value of products shipped to determine total value of shipments and receipts for each establishment.

Table 3 of the individual industry reports provides the national and regional total shipments from all industries for each of the products primary to the industries covered in the report.

Shipments and Production--Shipments figures include all products physically shipped from the establishment during 1967, including material withdrawn from stockpiles and products shipped on consignment, whether or not sold in 1967. Prepared material or concentrates include prep-

aration from ores mined at the same establishment, purchased, received from other operations of the same company, or received for milling on a custom or toll basis. For products transferred to other establishments of the same company or prepared on a custom basis, the company was requested to include, in addition to direct costs of production, a reasonable proportion of company overhead and profits.

For industry and industry group totals, some duplication is introduced by the inclusion of materials transferred from one establishment to another for mineral preparation. Wherever value of shipments is shown without further specification, it represents gross shipments.

For years prior to 1954, data on shipments were not collected. Instead, the report forms requested data on the quantity and value of

production. In general, the data for these years were edited to represent net production, excluding duplications due to mining and later preparing the same material in the same industry.

Value Added in Mining--Since the 1954 census, this measure has been computed by subtracting the cost of supplies, etc., and purchased machinery from the sum of value of shipments and receipts and capital expenditures. This statistic avoids the duplication in value of shipments which results from the use of products of some establishments as supplies, energy sources, or materials by others. Moreover, it provides a measure of value added not only in mineral production, but also in the development of mineral properties. For these reasons, it is considered to be the best value measure for comparing the relative economic importance of mining among industries and geographic areas.

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U.S. DEPARTMENT OF COMMERCE
Bureau of the Census
Washington, D.C. 20233

OFFICIAL BUSINESS



POSTAGE AND FEES PAID
U.S. DEPARTMENT OF COMMERCE



1967 Census of MINERAL INDUSTRIES

INDUSTRY SERIES



U.S. DEPARTMENT OF COMMERCE / Bureau of the Census

preliminary report

MIC67(P)-10D-3

Titanium ores

SIC Code 1093

The Titanium Ores Industry includes establishments primarily engaged in mining, milling, or otherwise preparing titanium ores such as ilmenite and rutile ores.

This report includes figures for administrative offices, warehouses, storage facilities, and other auxiliary units which service mining establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions contained in the 1967 edition of the Standard Industrial Classification (SIC) Manual.

In 1967, the value of products shipped and miscellaneous receipts of establishments classified in the Titanium Ores Industry amounted to \$23.5 million, an increase of 6.8 percent compared with 1963. Value added in mining amounted to \$17.3 million in 1967, an increase of 15.3 percent from 1963. Average employment in the industry showed a decrease of 10.0 percent from 1963 to a total of 0.9 thousand employees in 1967.

For an explanation of the terms used in the tables, see appendix at the end of this report.

TABLE 1. General Statistics: 1967 and Earlier Years

(See appendix, "Explanation of Terms")

(See appendix, "Explanation of Terms")

Year	Establishments		All employees		Production, development, and exploration workers			Value added in mining (million dollars)	Cost of supplies, etc., and purchased machinery installed (million dollars)	Value of shipments and receipts (million dollars)	Capital expendi- tures (million dollars)
	Total	With 20 employ- ees or more	Number	Payroll	Number	Man-hours	Wages				
	(number)	(number)	(1,000)	(million dollars)	(1,000)	(millions)	(million dollars)				
	INDUSTRY 1093.--TITANIUM ORES ¹										
1967.....	7	6	0.9	6.4	0.7	1.4	4.9	17.3	7.5	23.5	1.3
1963.....	8	7	1.0	6.4	0.8	1.7	5.1	15.0	9.2	22.0	2.2
1958.....	11	7	1.0	4.5	0.7	1.2	2.9	12.7	6.9	17.2	2.5
1954.....	10	6	0.8	3.7	0.6	1.3	2.4	11.1	5.6	12.8	4.0
1939.....	² 3	(NA)	0.2	0.2	0.2	0.3	0.1	0.4	0.1	³ 0.5	(NA)

(NA) Not available.

¹In addition to the years shown, titanium ores establishments were reported as follows: 1929, 1; 1919, 2; 1909, 1; and 1902, 1.

²Represents number of mines.

³Represents net shipments and receipts.

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TABLE 2. General Statistics, by Geographic Areas: 1967 and 1963

(Geographic data withheld to avoid disclosing figures for individual companies.)

Table 3. Production and Quantity and Value of Shipments by All Producers: 1967 and 1963

(Includes production and quantity and value of products reported not only by establishments classified in this industry, but also by establishments classified in other industries, and shipping these products as "secondary" products. See appendix under "Individual Products")

Product code	Product	1967			1963		
		Production (1,000 short tons)	Shipments including interplant transfers		Production (1,000 short tons)	Shipments including interplant transfers	
			Quantity (1,000 short tons)	Value (million dollars)		Quantity (1,000 short tons)	Value (million dollars)
1093- --	Titanium ores, total.....	(X)	(X)	18.7	(X)	(X)	16.8
1093101	Crude titanium ores.....	26,981.8	(X)	(X)	25,720.0	(X)	(X)
10932 0-	Titanium concentrates, total.....	944.7	893.2	18.7	901.3	902.2	16.8
10932 03	Ilmenite.....	944.7	893.2	18.7	888.9	889.4	15.6
10932 05	Rutile.....				12.4	12.8	1.3

Note: Detail may not add to the total due to independent rounding.

(X) Not applicable.

Table 4. Selected Supplies, Minerals Received for Preparation, and Purchased Machinery Installed: 1967 and 1963

(See appendix, "Explanation of Terms")

Code	Supplies	* Unit of measure	1967		1963	
			Quantity	Cost (million dollars)	Quantity	Cost (million dollars)
	INDUSTRY 1093.--TITANIUM ORES					
	Selected supplies, minerals received for preparation, and purchased machinery installed, total.....	.....	(X)	5.0	(X)	15.9
100097	Ores for preparation: Crude ores produced and prepared at same establishment.....	1,000 short tons.	26,269.0	(X)	25,720.0	(X)
353011	Purchased machinery installed.....	.....	(X)	1.4	(X)	2.1
	Supplies used:					
331201	Steel mill shapes and forms.....	1,000 short tons.	1.3	0.3	(X)	13.8
970099	All other supplies.....	.....	(X)	3.3		
976000	Selected supplies, minerals received for preparation, and pur- chased machinery installed, n.s.k. ².....	.....	(X)	-		

- Represents zero. n.s.k. Not specified by kind. (X) Not applicable.

¹Includes the cost of products bought and resold without further processing.²This item represents the total cost of supplies for establishments that did not report detailed supplies data. For 1967 this also includes estimates for establishments that were not mailed report forms.

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In the 1967 census, for the first time, approximately 10,000 single-unit establishments with 1 to 4 employees were excused from filing reports. Under special arrangements which safeguarded the confidentiality of both tax and census records, limited data on payrolls, sales, and industry classification from the administrative records of the Social Security Administration and the Internal Revenue Service were made available to the Census Bureau for use in the 1967 censuses of business, manufactures, and mineral industries. Estimates for data other than payrolls and sales for these small establishments were constructed from industry averages. The effect on industry aggregates is slight in most industries. For mining as a whole, they account for less than 1 percent of value added. In industry 1093, these small establishments accounted for less than 1 percent of value added.

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developing a mailing list for these establishments. The exclusion of these establishments has had only a slight effect on industry aggregates for most industries. Data for establishments without employees were included in the 1963, 1958, and 1954 censuses if these establishments reported more than \$500 in one of the following data items: (1) value of shipments and receipts, (2) cost of supplies and purchased machinery, or (3) capital expenditures. In the 1963 census, establishments without paid employees for mining as a whole accounted for approximately 3 percent of value added, while they accounted for less than 1 percent of value added for industry 1093.

As in earlier censuses, a number of small establishments may have been misclassified as to industry. However, such possible misclassifications have no significant effect on the statistics other than the number of establishments. As indicated above, report forms were not mailed to very small establishments (less than 5 employees). The industry classifications for these establishments were assigned on the basis of brief descriptions of the general activity of the establishment. Where the description is incomplete or there are relatively fine lines of demarcation between industries or between mining and nonmining activity, the code assigned to an establishment could differ from that which would have been assigned on the basis of more complete product information. Therefore, the total establishment count should be reviewed as an approximation rather than a precise measurement. The counts of establishments with 20 or more employees are far more reliable than the total number of establishments.

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Appendix

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All Employees--All full-time and part-time employees on the payrolls of operating mineral establishments for any part of the pay period ended nearest the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of the corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The number of production workers is the average of those for mid-month payroll periods of March, May, August, and November. The "all employee" number is the average number of production workers plus the number of other employees in mid-March.

Payroll--This item includes all forms of compensation such as salaries, wages, commissions, dismissal pay, all bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' Social Security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of these establishments, if a corporation; it excludes payments to the proprietor or partners, if an unincorporated concern. Respondents were told that in reporting they could follow the definition of payroll used for calculating the Federal withholding tax.

Production, Development, and Exploration Worker Man-Hours--The total man-hours figures represent all man-hours that production, development, and exploration workers worked both on active days during which there was production or development work, and inactive days, when only watchmen, inspectors, repairmen, and other maintenance men were on duty. They include all man-hours worked or paid for at the mining operations, except hours paid for vacations, holidays, or sick leave, when the employee was not at the establishment. Included are actual overtime hours, not straight-time equivalent hours. Man-hours of working proprietors or partners are excluded.

Cost of Supplies, etc., and Purchased Machinery--The 1967 census report forms requested information on supplies and purchased machinery installed; fuels and electric energy used; and contract work done by others for each establishment. These items included charges to both the current and capital accounts. The figures reported were to include items used during 1967 whether purchased, withdrawn from inventories, or received from other establishments of the company. For selected supplies and fuels and for electric energy, both quantity and cost data were requested. The cost data refer to direct charges actually paid or payable (after discounts) for items used during the year. Freight charges and other direct charges incurred by the establishment in acquiring the items are included. Where the company's records did not show actual amounts used, they were asked to approximate use by adding purchases (or receipts) during the year to opening inventory and subtracting closing inventory.

Separate figures were obtained for (a) selected supplies, minerals received for preparation, and purchased machinery installed; (b) electric energy purchased; (c) purchased fuels used for heat, power, or the generation of electricity; (d) contract work done by others; and (e) products bought and resold in the same condition. Supplies and equipment used in mine development, plant expansion, and capitalized repairs, which are chargeable to fixed assets accounts, were included, as were supplies furnished without charge to contractors for use at the mining operation and supplies sold to employees for use at the establishment. No data on such costs as advertising, insurance, telephone, and research and consulting services of other establishments; or on overhead costs, such as depreciation charges, rent, interest, and royalties were included in this item.

Specific Supplies Used and Minerals Prepared--In addition to the total cost of supplies, etc., and purchased machinery which every establishment was required to report, information was also collected on the consumption of major supplies used in mining. These supplies inquiries were restricted to those supplies which were important parts of the cost of production, exploration, and development of a particular industry and for which cost information was available from the firms' records. Information regarding the specific supplies consumed is shown in table 4.

On report forms for almost all mineral industries, except the contract services industries, a uniform inquiry was included on minerals prepared at the reported establish-

ments. Figures were obtained on minerals prepared from three sources: (1) Crude minerals mined at the establishment (quantity); (2) crude minerals received from other establishments of the company or purchased from others (quantity and cost); and (3) crude minerals received for preparation on a custom or toll basis (quantity and estimated value).

Establishments consuming less than a specified amount (usually \$5,000) were not requested to report the cost of a supply separately. Also, the cost of supplies for small establishments for which administrative records were used were imputed as "not specified by kind." (See text for importance of administrative records in the industry.)

Capital Expenditures--In the 1967 census, mining companies were asked to report expenditures made during the year for development and exploration of mineral properties, for new construction, and for machinery purchased at their operations that was chargeable to fixed assets accounts of the mineral establishment and were of a type for which depreciation, depletion, or Office of Minerals Exploration accounts were ordinarily maintained. Capital expenditures during 1967 were to be determined as "additions completed during the year plus construction in progress at the end of the year minus construction in progress at the beginning of the year." Reported capital expenditures were to include work done on contract as well as by the mine forces. Expenditures for machinery and equipment were to include those made for replacement purposes, as well as those for additions to capacity. Excluded from such expenditures totals are costs of maintenance and repairs charged as current operating expense. Also excluded are expenditures for land and mineral rights.

Wherever applicable, separate figures were provided for expenditures for (a) development and exploration of mineral property, (b) preparation plant construction and other construction, (c) new machinery and equipment, and (d) used plant and used equipment acquired from others.

Value of Shipments--The amounts under value of shipments are the values, f.o.b., mine, well, or plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts such as receipts for contract work performed for others, installation and repair, sales of scrap, and sale of products bought and resold without further processing. Included are all items produced by

the establishments and sold, transferred to other plants of the same company, or shipped on consignment.

In the case of multiunit companies, the firm was requested to report the value of products transferred to other establishments of the same company at full economic or commercial value, i.e., include not only the direct costs of production but also a reasonable proportion of "all other costs" (including company overhead) and profit.

Individual Products--In the 1967 Census of Mineral Industries, information on output of about 225 individual mineral product items was collected.

In general, the 1967 and 1963 minerals censuses figures were confined to separate totals for each crude and each prepared mineral. Where significant, separate shipments figures were also obtained for crude minerals going to preparation plants and those going to consumers.

Figures were collected on both quantity and value of shipments. Shipments include commercial shipments and transfers of products to other operations of the same company. For products which are used to a significant extent within the same establishment for power or heat, and for minerals mined and prepared in the same establishment, total production or separate data on production for such uses were collected. Typically, production was also collected for products for which there are usually significant differences between total production and total shipments as a result of stock changes.

For service industries, the amount received or due for services performed during 1967 was collected as a measure of output. For mine operators who also perform services, the amount received for such services was added to the total value of products shipped to determine total value of shipments and receipts for each establishment.

Table 3 of the individual industry reports provides the national and regional total shipments from all industries for each of the products primary to the industries covered in the report.

Shipments and Production--Shipments figures include all products physically shipped from the establishment during 1967, including material withdrawn from stockpiles and products shipped on consignment, whether or not sold in 1967. Prepared material or concentrates include prep-

aration from ores mined at the same establishment, purchased, received from other operations of the same company, or received for milling on a custom or toll basis. For products transferred to other establishments of the same company or prepared on a custom basis, the company was requested to include, in addition to direct costs of production, a reasonable proportion of company overhead and profits.

For industry and industry group totals, some duplication is introduced by the inclusion of materials transferred from one establishment to another for mineral preparation. Wherever value of shipments is shown without further specification, it represents gross shipments.

For years prior to 1954, data on shipments were not collected. Instead, the report forms requested data on the quantity and value of

production. In general, the data for these years were edited to represent net production, excluding duplications due to mining and later preparing the same material in the same industry.

Value Added in Mining--Since the 1954 census, this measure has been computed by subtracting the cost of supplies, etc., and purchased machinery from the sum of value of shipments and receipts and capital expenditures. This statistic avoids the duplication in value of shipments which results from the use of products of some establishments as supplies, energy sources, or materials by others. Moreover, it provides a measure of value added not only in mineral production, but also in the development of mineral properties. For these reasons, it is considered to be the best value measure for comparing the relative economic importance of mining among industries and geographic areas.

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1967 Census of
MINERAL INDUSTRIES

INDUSTRY SERIES



U.S. DEPARTMENT OF COMMERCE / Bureau of the Census

preliminary report

MIC67(P)-10D-4

Uranium-radium-vanadium ores

SIC Code 1094

The Uranium-radium-vanadium Ores Industry includes establishments primarily engaged in mining, milling, or otherwise preparing uranium-radium-vanadium ores.

This report includes figures for administrative offices, warehouses, storage facilities, and other auxiliary units which service mining establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions contained in the 1967 edition of the Standard Industrial Classification (SIC) Manual.

In 1967, the value of products shipped and miscellaneous receipts of establishments classified in the Uranium-Radium-Vanadium Ores Industry amounted to \$224.2 million a decrease of 31.3 percent compared with 1963. Value added in mining amounted to \$147.6 million in 1967, a decrease of 22.6 percent from 1963. Average employment in the industry showed a decrease of 17.9 percent from 1963 to a total of 5.5 thousand employees in 1967.

For an explanation of the terms used in the tables, see appendix at the end of this report.

TABLE 1. General Statistics: 1967 and Earlier Years

(See appendix, "Explanation of Terms")

Year	Establishments		All employees		Production, development, and exploration workers			Value added in mining (million dollars)	Cost of supplies, etc., and purchased machinery installed (million dollars)	Value of shipments and receipts (million dollars)	Capital expenditures (million dollars)
	Total	With 20 employees or more	Number	Payroll	Number	Man-hours	Wages				
	(number)	(number)	(1,000)	(million dollars)	(1,000)	(millions)	(million dollars)				
	INDUSTRY 1094.--URANIUM-RADIUM-VANADIUM ORES ¹										
1967.....	198	34	5.5	41.1	4.2	8.7	29.3	147.6	117.5	224.2	40.9
1963.....	335	51	6.7	45.2	5.1	11.3	34.2	190.6	151.7	326.4	15.9
1958 ²	602	61	7.9	44.4	6.4	13.9	34.4	174.8	263.2	336.5	101.6
1954.....	637	26	3.5	14.6	2.9	6.2	11.9	(³)	³ 25.4	(³)	14.8
1939.....	⁴ 3	(NA)	0.4	0.6	0.4	0.9	0.5	1.0	0.4	⁵ 1.5	(NA)

(NA) Not available.

¹In addition to the years shown, uranium-radium-vanadium ores establishments were reported as follows: 1929, 2; 1919, 13; and 1909, 2.²Excludes data for Alaska. In 1958, 1 establishment in Alaska was reported in the Uranium-Radium-Vanadium Ores Industry.³Not available. Figures for quantity of ores and concentrates, value of shipments, and cost of minerals received for treatment were not collected in the 1954 census. The uranium chapter of the 1959 Minerals Yearbook (United States Department of the Interior, Bureau of Mines) shows uranium ore production in 1954 as 914 thousand short tons. On the basis of these and other figures in this 1959 Minerals Yearbook, it is estimated that the value of shipments and receipts of the Uranium-Radium-Vanadium Ores Industry in 1954 was between \$70 and \$90 million, that value added in mining was between \$20 and \$40 million, and that cost of minerals received for treatment between \$30 and \$50 million.⁴Represents number of mines.⁵Represents value of net shipments and receipts.

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TABLE 2. General Statistics, by Geographic Areas: 1967 and 1963

(See appendix, "Explanation of Terms")

Geographic area	1967											1963	
	Establishments		All employees		Production, development, and exploration workers			Value added in mining (million dollars)	Cost of supplies, etc., and purchased machinery installed (million dollars)	Value of shipments and receipts (million dollars)	Capital expenditures (million dollars)	All employees (1,000)	Value added in mining (million dollars)
	Total	With 20 employees or more	Number	Payroll	Number	Man-hours	Wages						
	(number)	(number)	(1,000)	(million dollars)	(1,000)	(millions)	(million dollars)						
	INDUSTRY 1094.--URANIUM-RADIUM-VANADIUM ORES												
United States.....	198	34	5.5	41.1	4.2	8.7	29.3	147.6	117.5	224.2	40.9	6.7	190.6
Wyoming.....	16	7	0.8	6.2	0.7	1.5	5.0	27.2	16.6	34.2	9.5	1.0	36.8
New Mexico.....	17	7	2.2	17.0	1.7	3.5	12.5	57.0	40.4	89.5	7.9	2.4	72.3

Table 3. Production and Quantity and Value of Shipments by All Producers: 1967 and 1963

(Includes production and quantity and value of products reported not only by establishments classified in this industry, but also by establishments classified in other industries, and shipping these products as "secondary" products. See appendix under "Individual Products")

Product code	Product and geographic area	1967			1963		
		Production (1,000 short tons)	Shipments, including interplant transfers		Production (1,000 short tons)	Shipments, including interplant transfers	
			Quantity (1,000 short tons)	Value (million dollars)		Quantity (1,000 short tons)	Value (million dollars)
	UNITED STATES						
1094- --	URANIUM-VANADIUM ORES, TOTAL.....	(X)	(X)	212.1	(X)	(X)	318.1
10941 --	Crude uranium-vanadium ores, total.....	5,463.7	1,603.4	24.6	6,382.9	2,806.2	77.0
10941 01	Crude ores shipped.....	(X)	1,603.4	24.6	(X)	2,806.2	77.0
10941 03	Crude ores mined from underground operations.....	4,218.3	(X)	(X)	4,226.8	(X)	(X)
10941 05	Crude ores mined from open pit operations.....	1,245.4	(X)	(X)	2,156.1	(X)	(X)
10942 01	Uranium-vanadium concentrates ¹	27.1	27.2	187.5	² 110.4	² 107.0	² 241.1
	Wyoming						
1094- --	Uranium-vanadium ores, total.....	(X)	(X)	(D)	(X)	(X)	57.5
10941 --	Crude uranium-vanadium ores.....	1,390.4	(D)	(D)	1,418.9	603.1	12.4
10942 01	Uranium-vanadium concentrates ¹	2.8	2.2	32.5	69.8	69.8	45.1
	New Mexico						
1094- --	Uranium-vanadium ores, total.....	(X)	(X)	(D)	(X)	(X)	97.5
10941 --	Crude uranium-vanadium ores.....	2,758.4	(D)	(D)	2,624.9	607.4	12.2
10942 01	Uranium-vanadium concentrates ¹	7.5	6.5	79.6	6.6	6.6	85.3

Note: Detail may not add to totals due to independent rounding.

(D) Withheld to avoid disclosing individual company data. (X) Not applicable.

¹Concentrates include slurry and low-grade concentrates shipped to mills for further upgrading.²Concentrates include lignite ash valued chiefly for its uranium content.

TABLE 4. Selected Supplies, Materials Received for Preparation, and Purchased Machinery, Installed: 1967 and 1963

(See appendix, "Explanation of Terms")

Code	Supplies	Unit of measure	1967		1963	
			Quantity	Cost (million dollars)	Quantity	Cost (million dollars)
	INDUSTRY 1094.--URANIUM-RADIUM-VANADIUM ORES					
	Selected supplies, minerals received for preparation, and purchased machinery installed, total.....	.....	(X)	83.3	(X)	¹ 131.9
100097	Ores and other Uranium-Vanadium materials for preparation:					
	Crude ores and concentrates received for preparation.....	Million short tons.....	1.5	35.9	2.9	81.6
100097	Crude ores and concentrates produced and prepared at same establishment.....	...do.....	3.9	(X)	3.5	(X)
353011	Purchased machinery installed.....	.....	(X)	15.7	(X)	8.6
	Supplies used:					
289211 and 289212	Explosives.....	Million pounds..	(X)	1.1	}	¹ 41.7
289214	Blasting accessories.....	.....	(X)	0.3		
331201	Steel mill shapes and forms.....	1,000 short tons.....	10.5	3.5		
970099	All other supplies.....	.....	(X)	25.1		
976000	Selected supplies, minerals received for preparation, and purchased machinery installed, n.s.k. ².....	.....	(X)	1.7		

Note: Detail may not add to totals due to independent rounding.

(X) Not applicable. n.s.k. Not specified by kind.

¹Includes the cost of products bought and resold without further processing.²This item represents the total cost of supplies for establishments that did not report detailed supplies data. For 1967, this also includes estimates for establishments that were not mailed report forms.

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SCOPE AND COVERAGE

This report is one of a series presenting preliminary information on industries and products from the 1967 Census of Mineral Industries. The data will be superseded in a final report which in turn will be included in Volume I, Summary and Industry Statistics, 1967 Census of Mineral Industries. That report will include a comprehensive discussion of the concepts and definitions used in the census.

The census of mineral industries covers each mining establishment of firms in the United States with one or more paid employees. Firms which operate more than one establishment were required to file a separate report for each location. Companies which engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation and the activities were of significant size.

For oil and gas field operation and contract services, reports were required for units somewhat different from the "establishment" reporting unit used for other types of mining. Every concern which operated oil and gas wells, drilled such wells for its own account or for others, performed exploration work for oil or gas, or performed oil and gas field services for others during any part of calendar year 1967 was required to submit a separate report for each State or for each district within Texas, Louisiana, New Mexico, and California (however, information on employment, oil and gas production, and capital expenditures was requested by county). Further, concerns which supplied contract services for others were required to submit a separate report for each State. (In this instance also, information on employment, receipts for services, and capital expenditures was requested by county.)

In the 1967 census, for the first time, approximately 10,000 single-unit establishments with 1 to 4 employees were excused from filing reports. Under special arrangements which safeguarded the confidentiality of both tax and census records, limited data on payrolls, sales, and industry classification from the administrative records of the Social Security Administration and the Internal Revenue Service were made available to the Census Bureau for use in the 1967 censuses of business, manufactures, and mineral industries. Estimates for data other than payrolls and sales for these small establishments were constructed from industry averages. The effect on industry aggregates is slight in most industries. For mining as a whole, they account for less than 1 percent of value added. In industry 1094, these small establishments accounted for less than 1 percent of value added.

In the 1967 Census of Mineral Industries, data for all single-unit establishments without paid employees were excluded because of the difficulty in

developing a mailing list for these establishments. The exclusion of these establishments has had only a slight effect on industry aggregates for most industries. Data for establishments without employees were included in the 1963, 1958, and 1954 censuses if these establishments reported more than \$500 in one of the following data items: (1) value of shipments and receipts, (2) cost of supplies and purchased machinery, or (3) capital expenditures. In the 1963 census, establishments without paid employees for mining as a whole accounted for approximately 3 percent of value added, while they accounted for less than 3 percent of value added for industry 1094.

As in earlier censuses, a number of small establishments may have been misclassified as to industry. However, such possible misclassifications have no significant effect on the statistics other than the number of establishments. As indicated above, report forms were not mailed to very small establishments (less than 5 employees). The industry classifications for these establishments were assigned on the basis of brief descriptions of the general activity of the establishment. Where the description is incomplete or there are relatively fine lines of demarcation between industries or between mining and nonmining activity, the code assigned to an establishment could differ from that which would have been assigned on the basis of more complete product information. Therefore, the total establishment count should be reviewed as an approximation rather than a precise measurement. The counts of establishments with 20 or more employees are far more reliable than the total number of establishments.

More detailed figures for this industry will appear in the final census reports. Final reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each mineral industry and for each State are being issued. Final industry reports and final area reports will be published during the spring and fall of 1970. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C. 20233.

The 1967 Census of Mineral Industries is the 16th census of mineral establishments in the United States. For 1967, it was conducted jointly with the censuses of manufactures, retail trade, wholesale trade, and selected services under authority of Title 13 of the United States Code. Title 13 specified that a census of mineral industries be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7."

Appendix

EXPLANATION OF TERMS

(For a more complete discussion of these terms and the method of compiling the Census of Mineral Industries, see the Introduction to the 1963 Census of Mineral Industries, Volume I.)

All Employees--All full-time and part-time employees on the payrolls of operating mineral establishments for any part of the pay period ended nearest the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of the corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The number of production workers is the average of those for mid-month payroll periods of March, May, August, and November. The "all employee" number is the average number of production workers plus the number of other employees in mid-March.

Payroll--This item includes all forms of compensation such as salaries, wages, commissions, dismissal pay, all bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' Social Security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of these establishments, if a corporation; it excludes payments to the proprietor or partners, if an unincorporated concern. Respondents were told that in reporting they could follow the definition of payroll used for calculating the Federal withholding tax.

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Cost of Supplies, etc., and Purchased Machinery--The 1967 census report forms requested information on supplies and purchased machinery installed; fuels and electric energy used; and contract work done by others for each establishment. These items included charges to both the current and capital accounts. The figures reported were to include items used during 1967 whether purchased, withdrawn from inventories, or received from other establishments of the company. For selected supplies and fuels and for electric energy, both quantity and cost data were requested. The cost data refer to direct charges actually paid or payable (after discounts) for items used during the year. Freight charges and other direct charges incurred by the establishment in acquiring the items are included. Where the company's records did not show actual amounts used, they were asked to approximate use by adding purchases (or receipts) during the year to opening inventory and subtracting closing inventory.

Separate figures were obtained for (a) selected supplies, minerals received for preparation, and purchased machinery installed; (b) electric energy purchased; (c) purchased fuels used for heat, power, or the generation of electricity; (d) contract work done by others; and (e) products bought and resold in the same condition. Supplies and equipment used in mine development, plant expansion, and capitalized repairs, which are chargeable to fixed assets accounts, were included, as were supplies furnished without charge to contractors for use at the mining operation and supplies sold to employees for use at the establishment. No data on such costs as advertising, insurance, telephone, and research and consulting services of other establishments; or on overhead costs, such as depreciation charges, rent, interest, and royalties were included in this item.

Specific Supplies Used and Minerals Prepared--In addition to the total cost of supplies, etc., and purchased machinery which every establishment was required to report, information was also collected on the consumption of major supplies used in mining. These supplies inquiries were restricted to those supplies which were important parts of the cost of production, exploration, and development of a particular industry and for which cost information was available from the firms' records. Information regarding the specific supplies consumed is shown in table 4.

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Value of Shipments--The amounts under value of shipments are the values, f.o.b., mine, well, or plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts such as receipts for contract work performed for others, installation and repair, sales of scrap, and sale of products bought and resold without further processing. Included are all items produced by

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1967 Census of MINERAL INDUSTRIES

INDUSTRY SERIES



U.S. DEPARTMENT OF COMMERCE / Bureau of the Census

preliminary report

MIC67(P)-11A-1

Anthracite

SIC Code 1111

Bureau of the Census
Library

The Anthracite Industry represents establishments primarily engaged in producing anthracite (hard coal) or in developing anthracite mines. All establishments in the United States that are classified in this industry are in Pennsylvania. This industry includes underground mines, stripping or culm bank operations by owners, dredge operations, and coal preparation plants (breakers, washeries, and screening plants) whether or not operated in conjunction with the mines served. The production of fuel briquets and packaged fuel is classified in Major Group 29, and the production of manufactured gas from coal in industry 4925.

This report includes figures for administrative offices, warehouses, storage facilities, and other auxiliary units which service mining establish-

ments. The classification of establishments for which data are tabulated in this report is based upon the definitions contained in the 1967 edition of the Standard Industrial Classification (SIC) Manual.

In 1967, the value of products shipped and miscellaneous receipts of establishments classified in the Anthracite Industry amounted to \$144.3 million, a decrease of 35 percent compared with 1963. Value added in mining amounted to \$73.6 million in 1967, a decrease of 33 percent from 1963. Average employment in the industry showed a decrease of 41 percent from 1963 to a total of 6.3 thousand employees in 1967.

For an explanation of the terms used in the tables, see appendix at the end of this report.

TABLE 1. General Statistics: 1967 and Earlier Years

(See appendix, "Explanation of Terms")

Year	Establishments		All employees		Production, development, and exploration workers			Value added in mining (million dollars)	Cost of supplies, etc., and purchased machinery installed (million dollars)	Value of shipments and receipts (million dollars)	Capital expenditures (million dollars)
	Total (number)	With 20 employees or more (number)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Man-hours (millions)	Wages (million dollars)				
INDUSTRY 1111.--ANTHRACITE											
1967.....	366	56	6.3	36.0	5.4	10.1	30.4	73.6	75.8	144.3	5.1
1963.....	1,026	85	10.7	53.0	9.3	17.8	44.9	110.5	123.1	221.0	12.7
1958.....	1,163	117	19.7	79.5	17.3	26.4	67.4	142.2	160.9	290.3	12.8
1954.....	1,291	186	32.8	118.1	28.8	42.1	98.7	167.1	206.3	365.5	7.9
1939.....	¹ 518	(NA)	85.7	115.9	80.4	120.1	104.4	146.4	43.2	² 189.6	(NA)
1935 ³	350	(NA)	96.1	130.6	89.4	(NA)	116.4	174.7	35.7	² 210.4	(NA)
1929.....	198	(NA)	151.2	251.2	142.8	(NA)	230.0	320.8	69.7	² 384.9	(NA)
1919 ³	254	(NA)	154.7	223.3	147.4	(NA)	210.3	289.0	75.0	364.1	(NA)
1909.....	365	(NA)	173.8	96.9	169.5	(NA)	92.3	120.6	28.4	149.0	(NA)
1902.....	⁴ 369	(NA)	72.7	41.6	⁵ 69.7	(NA)	38.7	63.0	13.1	² 76.2	(NA)
1889.....	¹ 411	(NA)	124.2	39.3	122.4	(NA)	37.8	52.6	13.2	² 65.7	(NA)
1880.....	275	(NA)	71.0	22.8	69.7	(NA)	(NA)	35.5	6.7	² 42.3	(NA)
1870.....	229	(NA)	53.0	23.0	(NA)	(NA)	(NA)	34.8	3.6	² 38.4	(NA)
1860.....	176	(NA)	25.1	5.5	(NA)	(NA)	(NA)	10.2	1.6	² 11.9	(NA)
1850.....	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	² 5.3	(NA)
1840.....	(NA)	(NA)	3.0	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)

(NA) Not available.

¹Represents number of mines, culm banks, and dredges.

²Represents value of net shipments and receipts.

³Represents producing operations only.

⁴Represents number of preparation plants and dredges.

⁵Figures for average employment were converted to a 300-day basis for establishments which operated for a shorter period.

TABLE 2. General Statistics, by Geographic Areas: 1967 and 1963

(Not applicable to this industry. All operations are located in Pennsylvania.)

TABLE 3. Quantity and Value of Shipments by All Producers: 1967 and 1963

(Includes quantity and value of products reported not only by establishments classified in this industry, but also by establishments classified in other industries, and shipping these products as "secondary" products. See appendix, "Individual Products")

Product code	Product	1967		1963	
		Quantity (1,000 short tons)	Value (million dollars)	Quantity (1,000 short tons)	Value (million dollars)
1111- --	ANTHRACITE, TOTAL.....	(X)	141.7	(X)	219.9
	Net anthracite shipments.....	11,978.0	97.5	18,353.0	155.9
11111 --	Raw anthracite shipped (including interplant transfers), total.....	12,412.5	45.5	17,592.0	65.7
11111 01	For use without preparation.....	684.5	1.3	981.0	1.7
11111 03	For preparation at other establishments.....	11,728.1	44.2	16,611.0	64.0
11112 --	Prepared anthracite shipped, total.....	11,293.6	96.2	17,372.0	154.2
11112 01	Mechanically cleaned (breaker, washery, and dredge product).....	11,093.6	94.8	17,215.0	153.0
11112 03	Mechanically crushed, screened, or sized only.....	200.0	1.4	157.0	1.2

Note: Detail may not add to total due to independent rounding.

(X) Not applicable.

TABLE 4. Selected Supplies, Minerals Received for Preparation, and Purchased Machinery Installed: 1967 and 1963

(See appendix, "Explanation of Terms")

Code	Supplies	Unit of measure	1967		1963	
			Quantity	Cost (million dollars)	Quantity	Cost (million dollars)
	INDUSTRY 1111.--ANTHRACITE					
	Selected supplies, minerals received for preparation, and purchased machinery installed, total.....		(X)	63.7	(X)	93.8
12119-	Raw anthracite for preparation, total.....	1,000 short tons.	18,240.1	(X)	29,598.0	(X)
	Received from other establishments.....	do.....	11,477.6	43.7	16,326.0	63.9
	Mined and prepared at the same establishment.....	do.....	6,762.5	(X)	13,272.0	(X)
353011	Purchased machinery installed.....		(X)	2.3	(X)	6.8
	Supplies used:					
289211	Explosive materials, except ammonium nitrate.....	1,000 lbs.....	1,734.8	0.4	36,100.0	2.3
289212	Ammonium nitrate.....	do.....	30,011.0	1.4		
289214	Blasting accessories.....		(X)	0.2		
331201	Steel mill shapes and forms ²		(X)	0.8		
345210	Roof bolts.....		(X)	0.3	(X)	1.0
241100	Round or hewn woods products and stumpage ³		(X)	0.3	(X)	0.4
970099	All other supplies used.....		(X)	9.6	(X)	15.6
976000	Selected supplies, minerals received for preparation, and purchased machinery installed, n.s.k. ⁴		(X)	4.9	(X)	3.8

Note: Detail may not add to total due to independent rounding.

n.s.k. Not specified by kind. (X) Not applicable.

¹Blasting accessories are included with all other supplies used.²Represents such items as plates, sheets, strip, piling, drill steel bars, other bars, rails, wheels, track accessories, pipe, tubing, wire, wire products, and structural shapes.³Represents such items as logs, bolts, hewn cross ties, hewn or round mine timbers and ties.⁴This item represents the cost of supplies for establishments that did not report detailed supplies data. For 1967 this includes estimates for establishments that were not mailed report forms.

SCOPE AND COVERAGE

This report is one of a series presenting preliminary information on industries and products from the 1967 Census of Mineral Industries. The data will be superseded in a final report which in turn will be included in Volume I, Summary and Industry Statistics, 1967 Census of Mineral Industries. That report will include a comprehensive discussion of the concepts and definitions used in the census.

The census of mineral industries covers each mining establishment of firms in the United States with one or more paid employees. Firms which operate more than one establishment were required to file a separate report for each location. Companies which engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation and the activities were of significant size.

For oil and gas field operation and contract services, reports were required for units somewhat different from the "establishment" reporting unit used for other types of mining. Every concern which operated oil and gas wells, drilled such wells for its own account or for others, performed exploration work for oil or gas, or performed oil and gas field services for others during any part of calendar year 1967 was required to submit a separate report for each State or for each district within Texas, Louisiana, New Mexico, and California (however, information on employment, oil and gas production, and capital expenditures was requested by county). Further, concerns which supplied contract services for others were required to submit a separate report for each State. (In this instance also, information on employment, receipts for services, and capital expenditures was requested by county.)

In the 1967 census, for the first time, approximately 10,000 single-unit establishments with 1 to 4 employees were excused from filing reports. Under special arrangements which safeguarded the confidentiality of both tax and census records, limited data on payrolls, sales, and industry classification from the administrative records of the Social Security Administration and the Internal Revenue Service were made available to the Census Bureau for use in the 1967 censuses of business, manufactures, and mineral industries. Estimates for data other than payrolls and sales for these small establishments were constructed from industry averages. The effect on industry aggregates is slight in most industries. For mining as a whole, they account for less than 1 percent of value added. In Industry 1111, these small establishments accounted for less than 4 percent of value added.

In the 1967 Census of Mineral Industries, data for all single-unit establishments without paid employees were excluded because of the difficulty in

developing a mailing list for these establishments. The exclusion of these establishments has had only a slight effect on industry aggregates for most industries. Data for establishments without employees were included in the 1963, 1958, and 1954 censuses if these establishments reported more than \$500 in one of the following data items: (1) value of shipments and receipts, (2) cost of supplies and purchased machinery, or (3) capital expenditures. In the 1963 census, establishments without paid employees for mining as a whole accounted for approximately 3 percent of value added, while they accounted for less than 5 percent of value added for industry 1111.

As in earlier censuses, a number of small establishments may have been misclassified as to industry. However, such possible misclassifications have no significant effect on the statistics other than the number of establishments. As indicated above, report forms were not mailed to very small establishments (less than 5 employees). The industry classifications for these establishments were assigned on the basis of brief descriptions of the general activity of the establishment. Where the description is incomplete or there are relatively fine lines of demarcation between industries or between mining and nonmining activity, the code assigned to an establishment could differ from that which would have been assigned on the basis of more complete product information. Therefore, the total establishment count should be reviewed as an approximation rather than a precise measurement. The counts of establishments with 20 or more employees are far more reliable than the total number of establishments.

More detailed figures for this industry will appear in the final census reports. Final reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each mineral industry and for each State are being issued. Final industry reports and final area reports will be published during the spring and fall of 1970. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C. 20233.

The 1967 Census of Mineral Industries is the 16th census of mineral establishments in the United States. For 1967, it was conducted jointly with the censuses of manufactures, retail trade, wholesale trade, and selected services under authority of Title 13 of the United States Code. Title 13 specified that a census of mineral industries be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7."

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Appendix

EXPLANATION OF TERMS

(For a more complete discussion of these terms and the method of compiling the Census of Mineral Industries, see the Introduction to the 1963 Census of Mineral Industries, Volume I.)

All Employees--All full-time and part-time employees on the payrolls of operating mineral establishments for any part of the pay period ended nearest the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of the corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The number of production workers is the average of those for mid-month payroll periods of March, May, August, and November. The "all employee" number is the average number of production workers plus the number of other employees in mid-March.

Payroll--This item includes all forms of compensation such as salaries, wages, commissions, dismissal pay, all bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' Social Security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of these establishments, if a corporation; it excludes payments to the proprietor or partners, if an unincorporated concern. Respondents were told that in reporting they could follow the definition of payroll used for calculating the Federal withholding tax.

Production, Development, and Exploration Worker Man-Hours--The total man-hours figures represent all man-hours that production, development, and exploration workers worked both on active days during which there was production or development work, and inactive days, when only watchmen, inspectors, repairmen, and other maintenance men were on duty. They include all man-hours worked or paid for at the mining operations, except hours paid for vacations, holidays, or sick leave, when the employee was not at the establishment. Included are actual overtime hours, not straight-time equivalent hours. Man-hours of working proprietors or partners are excluded.

Cost of Supplies, etc., and Purchased Machinery--The 1967 census report forms requested information on supplies and purchased machinery installed; fuels and electric energy used; and contract work done by others for each establishment. These items included charges to both the current and capital accounts. The figures reported were to include items used during 1967 whether purchased, withdrawn from inventories, or received from other establishments of the company. For selected supplies and fuels and for electric energy, both quantity and cost data were requested. The cost data refer to direct charges actually paid or payable (after discounts) for items used during the year. Freight charges and other direct charges incurred by the establishment in acquiring the items are included. Where the company's records did not show actual amounts used, they were asked to approximate use by adding purchases (or receipts) during the year to opening inventory and subtracting closing inventory.

Separate figures were obtained for (a) selected supplies, minerals received for preparation, and purchased machinery installed; (b) electric energy purchased; (c) purchased fuels used for heat, power, or the generation of electricity; (d) contract work done by others; and (e) products bought and resold in the same condition. Supplies and equipment used in mine development, plant expansion, and capitalized repairs, which are chargeable to fixed assets accounts, were included, as were supplies furnished without charge to contractors for use at the mining operation and supplies sold to employees for use at the establishment. No data on such costs as advertising, insurance, telephone, and research and consulting services of other establishments; or on overhead costs, such as depreciation charges, rent, interest, and royalties were included in this item.

Specific Supplies Used and Minerals Prepared--In addition to the total cost of supplies, etc., and purchased machinery which every establishment was required to report, information was also collected on the consumption of major supplies used in mining. These supplies inquiries were restricted to those supplies which were important parts of the cost of production, exploration, and development of a particular industry and for which cost information was available from the firms' records. Information regarding the specific supplies consumed is shown in table 4.

On report forms for almost all mineral industries, except the contract services industries, a uniform inquiry was included on minerals prepared at the reported establish-

ments. Figures were obtained on minerals prepared from three sources: (1) Crude minerals mined at the establishment (quantity); (2) crude minerals received from other establishments of the company or purchased from others (quantity and cost); and (3) crude minerals received for preparation on a custom or toll basis (quantity and estimated value).

Establishments consuming less than a specified amount (usually \$5,000) were not requested to report the cost of a supply separately. Also, the cost of supplies for small establishments for which administrative records were used were imputed as "not specified by kind." (See text for importance of administrative records in the industry.)

Capital Expenditures--In the 1967 census, mining companies were asked to report expenditures made during the year for development and exploration of mineral properties, for new construction, and for machinery purchased at their operations that was chargeable to fixed assets accounts of the mineral establishment and were of a type for which depreciation, depletion, or Office of Minerals Exploration accounts were ordinarily maintained. Capital expenditures during 1967 were to be determined as "additions completed during the year plus construction in progress at the end of the year minus construction in progress at the beginning of the year." Reported capital expenditures were to include work done on contract as well as by the mine forces. Expenditures for machinery and equipment were to include those made for replacement purposes, as well as those for additions to capacity. Excluded from such expenditures totals are costs of maintenance and repairs charged as current operating expense. Also excluded are expenditures for land and mineral rights.

Wherever applicable, separate figures were provided for expenditures for (a) development and exploration of mineral property, (b) preparation plant construction and other construction, (c) new machinery and equipment, and (d) used plant and used equipment acquired from others.

Value of Shipments--The amounts under value of shipments are the values, f.o.b., mine, well, or plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts such as receipts for contract work performed for others, installation and repair, sales of scrap, and sale of products bought and resold without further processing. Included are all items produced by

the establishments and sold, transferred to other plants of the same company, or shipped on consignment.

In the case of multiunit companies, the firm was requested to report the value of products transferred to other establishments of the same company at full economic or commercial value, i.e., include not only the direct costs of production but also a reasonable proportion of "all other costs" (including company overhead) and profit.

Individual Products--In the 1967 Census of Mineral Industries, information on output of about 225 individual mineral product items was collected.

In general, the 1967 and 1963 minerals censuses figures were confined to separate totals for each crude and each prepared mineral. Where significant, separate shipments figures were also obtained for crude minerals going to preparation plants and those going to consumers.

Figures were collected on both quantity and value of shipments. Shipments include commercial shipments and transfers of products to other operations of the same company. For products which are used to a significant extent within the same establishment for power or heat, and for minerals mined and prepared in the same establishment, total production or separate data on production for such uses were collected. Typically, production was also collected for products for which there are usually significant differences between total production and total shipments as a result of stock changes.

For service industries, the amount received or due for services performed during 1967 was collected as a measure of output. For mine operators who also perform services, the amount received for such services was added to the total value of products shipped to determine total value of shipments and receipts for each establishment.

Table 3 of the individual industry reports provides the national and regional total shipments from all industries for each of the products primary to the industries covered in the report.

Shipments and Production--Shipments figures include all products physically shipped from the establishment during 1967, including material withdrawn from stockpiles and products shipped on consignment, whether or not sold in 1967. Prepared material or concentrates include prep-

aration from ores mined at the same establishment, purchased, received from other operations of the same company, or received for milling on a custom or toll basis. For products transferred to other establishments of the same company or prepared on a custom basis, the company was requested to include, in addition to direct costs of production, a reasonable proportion of company overhead and profits.

For industry and industry group totals, some duplication is introduced by the inclusion of materials transferred from one establishment to another for mineral preparation. Wherever value of shipments is shown without further specification, it represents gross shipments.

For years prior to 1954, data on shipments were not collected. Instead, the report forms requested data on the quantity and value of

production. In general, the data for these years were edited to represent net production, excluding duplications due to mining and later preparing the same material in the same industry.

Value Added in Mining--Since the 1954 census, this measure has been computed by subtracting the cost of supplies, etc., and purchased machinery from the sum of value of shipments and receipts and capital expenditures. This statistic avoids the duplication in value of shipments which results from the use of products of some establishments as supplies, energy sources, or materials by others. Moreover, it provides a measure of value added not only in mineral production, but also in the development of mineral properties. For these reasons, it is considered to be the best value measure for comparing the relative economic importance of mining among industries and geographic areas.

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U.S. DEPARTMENT OF COMMERCE
Bureau of the Census
Washington, D.C. 20233

OFFICIAL BUSINESS



POSTAGE AND FEES PAID
U.S. DEPARTMENT OF COMMERCE



1967 Census of MINERAL INDUSTRIES

INDUSTRY SERIES



U.S. DEPARTMENT OF COMMERCE/Bureau of the Census

preliminary report

MIC67(P)-11A-2

Anthracite mining services

SIC Code 1112

The Anthracite Mining Services Industry includes establishments primarily engaged in performing for others, on a contract, fee, or other basis, anthracite mining services, such as the removal of overburden, strip mining for fresh or culm bank anthracite, drilling, mine tunneling, shaft sinking, and pumping or draining mines.

This report includes figures for administrative offices, warehouses, storage facilities, and other auxiliary units which service mining establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions contained in the 1967 edition of the Standard Industrial Classification (SIC) Manual.

In 1967, the value of receipts for primary services and miscellaneous receipts of establishments classified in the Anthracite Mining Services Industry amounted to \$9.3 million, a decrease of 40.0 percent compared with 1963. Value added in mining amounted to \$7.0 million in 1967, a decrease of 30.0 percent from 1963. Average employment in the industry showed a decrease of 27.3 percent from 1963 to a total of 0.8 thousand employees in 1967.

For an explanation of the terms used in the tables, see appendix at the end of this report.

TABLE 1. General Statistics: 1967 and Earlier Years

(See appendix, "Explanation of Terms")

(See appendix, "Explanation of Terms")

Year	Establishments		All employees		Production, development, and exploration workers			Value added in mining (million dollars)	Cost of supplies, etc., and purchased machinery installed (million dollars)	Value of shipments and receipts (million dollars)	Capital expenditures (million dollars)
	Total	With 20 employees or more	Number	Payroll	Number	Man-hours	Wages				
	(number)	(number)	(1,000)	(million dollars)	(1,000)	(millions)	(million dollars)				
	INDUSTRY 1112.--ANTHRACITE MINING SERVICES										
1967.....	25	11	0.8	4.5	0.7	1.3	4.0	7.0	3.6	9.3	1.4
1963.....	43	17	1.1	5.8	1.0	1.8	5.0	10.0	8.0	15.5	2.5
1958.....	85	42	3.1	13.9	2.8	4.5	12.0	22.3	16.3	34.8	3.8
1954.....	145	59	4.7	17.9	4.2	6.2	15.3	29.7	15.8	42.9	2.6
1939.....	(NA)	(NA)	2.9	4.2	2.7	4.4	3.4	7.6	3.9	11.5	1.0
1935 ¹	(NA)	(NA)	3.3	4.2	3.1	(NA)	3.7	(NA)	2.8	(NA)	(NA)
1902 ²	(NA)	(NA)	1.7	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	0.4	(NA)

(NA) - Not available

¹Represents anthracite stripping services only.

²Represents number of employees engaged in all contract work and payments for all contract work as reported by companies operating anthracite mines.

TABLE 2. General Statistics, by Geographic Areas: 1967 and 1963

(Not applicable to this industry. All operations are located in Pennsylvania.)

TABLE 3. Quantity and Value of Receipts for Primary Services Performed: 1967 and 1963

Product code	Type of Service	1967		1963	
		Raw coal mined and culm-bank material loaded (1,000 short tons)	Receipts for services performed (Million Dollars)	Raw coal mined and culm-bank material loaded (1,000 short tons)	Receipts for services performed (Million Dollars)
1112---	ANTHRACITE MINING SERVICES, TOTAL.....	2945.7	9.2	5419.0	15.6
1112802	Stripping overburden.....	(X)	7.4	(X)	13.8
1112804	Strip mining anthracite not for your own account.....	1949.5		3913.0	
1112806	Recovering culm bank material not for your own account.....	996.2		1506.0	1.6
	All other services.....	(X)	0.3	(X)	0.2

Note: Detail may not add to total due to independent rounding.

(X) Not applicable.

TABLE 4. Selected Supplies and Purchased Machinery Installed: 1967 and 1963

(See appendix, "Explanation of Terms")

Code	Supplies	Cost (million dollars)	
		1967	1963
	INDUSTRY 1112-ANTHRACITE MINING SERVICES		
	Selected supplies and purchased machinery installed, total.....	2.8	5.9
353011	Purchased machinery installed.....	0.8	2.2
	Supplies used:		
2892--	Explosive materials and blasting accessories.....	0.1	3.7
331201	Steel mill shapes and forms.....	0.6	
970099	All other supplies.....		
976000	Selected supplies and purchased machinery installed, n.s.k. ¹	1.4	

Note: Detail may not add to total due to independent rounding.

n.s.k. Not specified by kind.

¹This item represents the cost of supplies for establishments that did not report detailed supplies data. For 1967, this also includes estimates for establishments that were not mailed report forms.

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In the 1967 census, for the first time, approximately 10,000 single-unit establishments with 1 to 4 employees were excused from filing reports. Under special arrangements which safeguarded the confidentiality of both tax and census records, limited data on payrolls, sales, and industry classification from the administrative records of the Social Security Administration and the Internal Revenue Service were made available to the Census Bureau for use in the 1967 censuses of business, manufactures, and mineral industries. Estimates for data other than payrolls and sales for these small establishments were constructed from industry averages. The effect on industry aggregates is slight in most industries. For mining as a whole, they account for less than 1 percent of value added. In industry 1112, these small establishments accounted for approximately 2 percent of value added.

In the 1967 Census of Mineral Industries, data for all single-unit establishments without paid employees were excluded because of the difficulty in

developing a mailing list for these establishments. The exclusion of these establishments has had only a slight effect on industry aggregates for most industries. Data for establishments without employees were included in the 1963, 1958, and 1954 censuses if these establishments reported more than \$500 in one of the following data items: (1) value of shipments and receipts, (2) cost of supplies and purchased machinery, or (3) capital expenditures. In the 1963 census, establishments without paid employees for mining as a whole accounted for approximately percent of value added, while they accounted for less than 1 percent of value added for industry 1112.

As in earlier censuses, a number of small establishments may have been misclassified as to industry. However, such possible misclassifications have no significant effect on the statistics other than the number of establishments. As indicated above, report forms were not mailed to very small establishments (less than 5 employees). The industry classifications for these establishments were assigned on the basis of brief descriptions of the general activity of the establishment. Where the description is incomplete or there are relatively fine lines of demarcation between industries or between mining and nonmining activity, the code assigned to an establishment could differ from that which would have been assigned on the basis of more complete product information. Therefore, the total establishment count should be reviewed as an approximation rather than a precise measurement. The counts of establishments with 20 or more employees are far more reliable than the total number of establishments.

More detailed figures for this industry will appear in the final census reports. Final reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each mineral industry and for each State are being issued. Final industry reports and final area reports will be published during the spring and fall of 1970. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C. 20233.

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Appendix

EXPLANATION OF TERMS

(For a more complete discussion of these terms and the method of compiling the Census of Mineral Industries, see the Introduction to the 1963 Census of Mineral Industries, Volume I.)

All Employees--All full-time and part-time employees on the payrolls of operating mineral establishments for any part of the pay period ended nearest the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of the corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The number of production workers is the average of those for mid-month payroll periods of March, May, August, and November. The "all employee" number is the average number of production workers plus the number of other employees in mid-March.

Payroll--This item includes all forms of compensation such as salaries, wages, commissions, dismissal pay, all bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' Social Security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of these establishments, if a corporation; it excludes payments to the proprietor or partners, if an unincorporated concern. Respondents were told that in reporting they could follow the definition of payroll used for calculating the Federal withholding tax.

Production, Development, and Exploration Worker Man-Hours--The total man-hours figures represent all man-hours that production, development, and exploration workers worked both on active days during which there was production or development work, and inactive days, when only watchmen, inspectors, repairmen, and other maintenance men were on duty. They include all man-hours worked or paid for at the mining operations, except hours paid for vacations, holidays, or sick leave, when the employee was not at the establishment. Included are actual overtime hours, not straight-time equivalent hours. Man-hours of working proprietors or partners are excluded.

Cost of Supplies, etc., and Purchased Machinery--The 1967 census report forms requested information on supplies and purchased machinery installed; fuels and electric energy used; and contract work done by others for each establishment. These items included charges to both the current and capital accounts. The figures reported were to include items used during 1967 whether purchased, withdrawn from inventories, or received from other establishments of the company. For selected supplies and fuels and for electric energy, both quantity and cost data were requested. The cost data refer to direct charges actually paid or payable (after discounts) for items used during the year. Freight charges and other direct charges incurred by the establishment in acquiring the items are included. Where the company's records did not show actual amounts used, they were asked to approximate use by adding purchases (or receipts) during the year to opening inventory and subtracting closing inventory.

Separate figures were obtained for (a) selected supplies, minerals received for preparation, and purchased machinery installed; (b) electric energy purchased; (c) purchased fuels used for heat, power, or the generation of electricity; (d) contract work done by others; and (e) products bought and resold in the same condition. Supplies and equipment used in mine development, plant expansion, and capitalized repairs, which are chargeable to fixed assets accounts, were included, as were supplies furnished without charge to contractors for use at the mining operation and supplies sold to employees for use at the establishment. No data on such costs as advertising, insurance, telephone, and research and consulting services of other establishments; or on overhead costs, such as depreciation charges, rent, interest, and royalties were included in this item.

Specific Supplies Used and Minerals Prepared--In addition to the total cost of supplies, etc., and purchased machinery which every establishment was required to report, information was also collected on the consumption of major supplies used in mining. These supplies inquiries were restricted to those supplies which were important parts of the cost of production, exploration, and development of a particular industry and for which cost information was available from the firms' records. Information regarding the specific supplies consumed is shown in table 4.

On report forms for almost all mineral industries, except the contract services industries, a uniform inquiry was included on minerals prepared at the reported establish-

ments. Figures were obtained on minerals prepared from three sources: (1) Crude minerals mined at the establishment (quantity); (2) crude minerals received from other establishments of the company or purchased from others (quantity and cost); and (3) crude minerals received for preparation on a custom or toll basis (quantity and estimated value).

Establishments consuming less than a specified amount (usually \$5,000) were not requested to report the cost of a supply separately. Also, the cost of supplies for small establishments for which administrative records were used were imputed as "not specified by kind." (See text for importance of administrative records in the industry.)

Capital Expenditures--In the 1967 census, mining companies were asked to report expenditures made during the year for development and exploration of mineral properties, for new construction, and for machinery purchased at their operations that was chargeable to fixed assets accounts of the mineral establishment and were of a type for which depreciation, depletion, or Office of Minerals Exploration accounts were ordinarily maintained. Capital expenditures during 1967 were to be determined as "additions completed during the year plus construction in progress at the end of the year minus construction in progress at the beginning of the year." Reported capital expenditures were to include work done on contract as well as by the mine forces. Expenditures for machinery and equipment were to include those made for replacement purposes, as well as those for additions to capacity. Excluded from such expenditures totals are costs of maintenance and repairs charged as current operating expense. Also excluded are expenditures for land and mineral rights.

Wherever applicable, separate figures were provided for expenditures for (a) development and exploration of mineral property, (b) preparation plant construction and other construction, (c) new machinery and equipment, and (d) used plant and used equipment acquired from others.

Value of Shipments--The amounts under value of shipments are the values, f.o.b., mine, well, or plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts such as receipts for contract work performed for others, installation and repair, sales of scrap, and sale of products bought and resold without further processing. Included are all items produced by

the establishments and sold, transferred to other plants of the same company, or shipped on consignment.

In the case of multiunit companies, the firm was requested to report the value of products transferred to other establishments of the same company at full economic or commercial value, i.e., include not only the direct costs of production but also a reasonable proportion of "all other costs" (including company overhead) and profit.

Individual Products--In the 1967 Census of Mineral Industries, information on output of about 225 individual mineral product items was collected.

In general, the 1967 and 1963 minerals censuses figures were confined to separate totals for each crude and each prepared mineral. Where significant, separate shipments figures were also obtained for crude minerals going to preparation plants and those going to consumers.

Figures were collected on both quantity and value of shipments. Shipments include commercial shipments and transfers of products to other operations of the same company. For products which are used to a significant extent within the same establishment for power or heat, and for minerals mined and prepared in the same establishment, total production or separate data on production for such uses were collected. Typically, production was also collected for products for which there are usually significant differences between total production and total shipments as a result of stock changes.

For service industries, the amount received or due for services performed during 1967 was collected as a measure of output. For mine operators who also perform services, the amount received for such services was added to the total value of products shipped to determine total value of shipments and receipts for each establishment.

Table 3 of the individual industry reports provides the national and regional total shipments from all industries for each of the products primary to the industries covered in the report.

Shipments and Production--Shipments figures include all products physically shipped from the establishment during 1967, including material withdrawn from stockpiles and products shipped on consignment, whether or not sold in 1967. Prepared material or concentrates include prep-

aration from ores mined at the same establishment, purchased, received from other operations of the same company, or received for milling on a custom or toll basis. For products transferred to other establishments of the same company or prepared on a custom basis, the company was requested to include, in addition to direct costs of production, a reasonable proportion of company overhead and profits.

For industry and industry group totals, some duplication is introduced by the inclusion of materials transferred from one establishment to another for mineral preparation. Wherever value of shipments is shown without further specification, it represents gross shipments.

For years prior to 1954, data on shipments were not collected. Instead, the report forms requested data on the quantity and value of

production. In general, the data for these years were edited to represent net production, excluding duplications due to mining and later preparing the same material in the same industry.

Value Added in Mining--Since the 1954 census, this measure has been computed by subtracting the cost of supplies, etc., and purchased machinery from the sum of value of shipments and receipts and capital expenditures. This statistic avoids the duplication in value of shipments which results from the use of products of some establishments as supplies, energy sources, or materials by others. Moreover, it provides a measure of value added not only in mineral production, but also in the development of mineral properties. For these reasons, it is considered to be the best value measure for comparing the relative economic importance of mining among industries and geographic areas.

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U.S. DEPARTMENT OF COMMERCE
Bureau of the Census
Washington, D.C. 20233

OFFICIAL BUSINESS



POSTAGE AND FEES PAID
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1967 Census of MINERAL INDUSTRIES

INDUSTRY SERIES



U.S. DEPARTMENT OF COMMERCE / Bureau of the Census

preliminary report

MIC67(P)-12A-1

Bituminous coal and Lignite

SIC Codes 1211 and 1212

The Bituminous Coal Industry includes establishments primarily engaged in producing bituminous coal or in developing bituminous coal mines. This industry includes underground mining, auger mining, strip mining, and coal cleaning, crushing, screening, and sizing plants, whether or not operated in conjunction with the mines served.

The Lignite Industry includes establishments primarily engaged in producing lignite or in developing lignite mines.

This report includes figures for administrative offices, warehouses, storage facilities, and other auxiliary units which service mining establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions contained in the 1967 edition of the Standard Industrial Classification (SIC) Manual.

In 1967, the value of products shipped and miscellaneous receipts of establishments classified in the Bituminous Coal Industry amounted to \$2,897.8 million, an increase of 23 percent compared with 1963. Value added in mining amounted to \$1,974.9 million in 1967, an increase of 25 percent from 1963. Average employment in the industry showed a decrease of 7 percent from 1963 to a total of 122.5 thousand employees in 1967.

In 1967, the value of products shipped and miscellaneous receipts of establishments classified in the Lignite Industry amounted to \$17.9 million, an increase of 27 percent compared with 1963. Value added in mining amounted to \$12.9 million in 1967, an increase of 9 percent from 1963. Average employment in the industry in 1967 was 0.5 thousand, approximately the same as in 1963.

For an explanation of the terms used in the tables, see appendix at the end of this report.

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1967 CENSUS OF MINERAL INDUSTRIES

TABLE 1. General Statistics: 1967 and Earlier Years

(See appendix, "Explanation of Terms")

Year	Establishments		All employees		Production, development, and exploration workers			Value added in mining	Cost of supplies, etc., and purchased machinery installed	Value of shipments and receipts	Capital expenditures
	Total	With 20 employees or more	Number	Payroll	Number	Man-hours	Wages				
	(number)	(number)	(1,000)	(million dollars)	(1,000)	(millions)	(million dollars)	(million dollars)	(million dollars)	(million dollars)	(million dollars)
	INDUSTRY 1211.--BITUMINOUS COAL										
1967.....	3,911	1,029	122.5	912.5	107.2	208.8	764.7	1,974.9	1,252.1	2,897.8	329.3
1963.....	6,115	1,143	132.0	752.5	117.0	214.4	642.3	1,578.1	991.1	2,358.3	210.8
1958.....	6,725	1,346	185.9	905.0	161.9	264.8	753.3	1,591.3	991.2	2,398.2	184.3
1954.....	6,653	1,438	217.2	868.8	198.1	323.1	759.7	1,402.6	761.3	2,046.8	117.0
1939 ¹	² 5,716	(NA)	389.0	474.7	369.3	542.3	430.6	607.3	³ 120.0	⁴ 727.4	(NA)
1935 ¹ ⁵	² 6,311	(NA)	⁶ 452.3	⁶ 435.2	435.4	(NA)	402.7	554.9	103.6	⁴ 658.5	(NA)
1929 ¹ ⁵	4,995	(NA)	482.5	633.6	458.8	(NA)	574.9	820.0	181.7	⁴ 966.7	(NA)
1919 ⁵	6,670	(NA)	580.0	752.2	546.4	(NA)	683.4	963.1	183.2	1,146.3	(NA)
1909 ⁵ ⁷	4,400	(NA)	506.2	291.2	488.3	(NA)	270.7	341.7	60.1	401.8	(NA)
1902 ⁵	² 5,652	(NA)	295.1	196.0	⁸ 280.6	(NA)	181.5	264.8	26.0	⁴ 290.9	(NA)
1889 ⁵	² 912,141	(NA)	175.4	69.9	169.1	(NA)	65.7	85.7	8.8	⁴ 994.5	(NA)
1880 ⁵	¹⁰ 8,144	(NA)	109.0	33.2	(NA)	(NA)	(NA)	48.6	4.9	⁴ 1053.5	(NA)
1870 ⁵	1,337	(NA)	41.7	21.3	(NA)	(NA)	(NA)	33.0	2.1	⁴ 35.1	(NA)
1860 ⁵	446	(NA)	11.4	4.1	(NA)	(NA)	(NA)	7.3	1.1	⁴ 8.4	(NA)
1850 ⁵	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	⁴ 1.9	(NA)
1840 ⁵	(NA)	(NA)	3.8	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
	INDUSTRY 1212.--LIGNITE										
1967.....	45	7	0.5	3.3	0.4	0.8	2.6	12.9	6.5	17.9	1.5
1963.....	59	6	0.5	2.8	0.4	0.9	2.2	11.8	6.9	14.1	4.6
1958.....	58	8	0.5	2.7	0.4	0.8	2.3	9.3	3.2	11.0	1.4
1954.....	60	9	0.6	2.6	0.5	0.9	2.2	9.1	1.9	10.4	0.6
1939 ⁵	² 131	(NA)	1.6	1.6	1.5	3.0	1.4	2.9	0.6	⁴ 3.5	(NA)

(NA) Not available.

¹Excludes figures for Alaska.²Represents number of mines.³For 1939 and probably for earlier years, excludes the cost of purchases for resale.⁴Represents value of net shipments and receipts.⁵For years prior to 1939, figures for the Lignite Industry are included with those for the Bituminous Coal Industry.⁶Excludes data for persons engaged at central offices not located at the mine property.⁷Adjusted to exclude data for coke manufacture at coal mines, to include "anthracite" production outside of Pennsylvania, and to transfer from wages to cost of supplies, the cost of explosives, oil, and blacksmithing furnished to miners.⁸Figures for average employment were converted to a 300-day basis for establishments which operated for a shorter period.⁹For 1889, includes data for 9,920 "local mines and farmers' banks" producing about 2 percent of all coal, for which no data are available on labor or expenditures.¹⁰Includes data for 5,148 mines, producing 917 thousand tons of coal valued at \$1,093 thousand representing "irregular" operations for which no other data are available.

TABLE 2. General Statistics, by Geographic Areas: 1967 and 1963

(See appendix, "Explanation of Terms")

Geographic area	1967											1963	
	Establishments		All employees		Production, development, and exploration workers			Value added in mining	Cost of supplies, etc., and purchased machinery installed	Value of shipments and receipts	Capital expenditures	All employees	Value added in mining
	Total	With 20 employees or more	Number	Payroll	Number	Man-hours	Wages						
	(number)	(number)	(1,000)	(million dollars)	(1,000)	(millions)	(million dollars)	(million dollars)	(million dollars)	(million dollars)	(million dollars)	(1,000)	(million dollars)
INDUSTRY 1211.--BITUMINOUS COAL													
United States, total.	3,911	1,029	122.5	912.5	107.2	208.8	764.7	1,974.9	1,252.1	2,897.8	329.3	132.0	1,578.1
Northeast Region.....	714	192	22.9	174.1	19.5	38.7	140.7	328.4	256.6	531.7	53.2	24.2	275.8
Pennsylvania.....	708	190	22.8	172.4	19.5	38.7	140.7	328.4	256.6	531.7	53.2	24.0	275.8
East North Central Division.....	389	166	19.4	169.6	16.4	35.5	138.1	390.5	203.9	543.0	51.4	20.3	307.8
Ohio.....	256	86	8.4	67.1	6.9	14.4	51.0	135.9	95.4	212.9	18.5	8.3	104.9
Indiana.....	52	20	2.2	19.4	1.9	3.8	16.2	60.9	21.8	75.4	7.4	3.0	46.0
Illinois.....	81	60	8.8	83.0	7.6	17.2	70.9	193.6	86.7	254.7	25.5	9.0	156.9
West North Central Division.....	48	12	1.7	10.4	0.7	1.5	5.6	19.5	6.8	24.8	1.5	1.7	17.9
South Atlantic Division..	1,581	375	49.4	361.1	44.2	84.0	311.5	746.9	482.7	1,099.8	129.8	53.1	602.8
Maryland.....	38	5	0.3	1.6	0.3	0.5	1.5	3.8	2.1	5.4	0.5	0.4	3.7
Virginia.....	570	97	9.4	57.1	8.5	15.1	48.5	128.7	87.9	193.6	23.0	11.3	95.6
West Virginia.....	973	273	39.7	302.4	35.5	68.4	261.5	614.4	392.7	900.7	106.4	41.3	503.4
East South Central Division.....	1,012	241	25.3	168.7	23.1	43.2	145.5	408.9	256.4	581.2	84.1	28.2	307.2
Kentucky.....	751	172	18.8	124.9	17.1	32.1	107.6	292.0	199.5	428.8	62.8	20.7	219.3
Tennessee.....	137	31	1.7	9.7	1.6	2.9	8.7	24.2	15.8	31.9	8.2	1.8	20.1
Alabama.....	124	38	4.9	34.2	4.5	8.2	29.3	92.7	41.0	120.6	13.1	5.7	67.8
West South Central.....	21	5	0.3	2.1	0.3	0.5	1.8	5.2	2.3	6.7	1.0	0.5	5.5
Arkansas.....	11	2	0.1	0.6	0.1	0.2	0.5	1.3	0.3	1.6	(Z)	0.1	1.3
Oklahoma.....	10	3	0.2	1.5	0.2	0.3	1.3	3.9	2.0	5.0	0.9	0.3	4.2
Mountain Division.....	136	35	3.3	24.5	2.8	5.1	19.8	71.4	40.9	105.4	6.8	3.8	54.9
Wyoming.....	16	7	0.3	2.0	0.3	0.5	1.8	8.7	3.0	11.4	0.4	0.3	6.2
Colorado.....	67	12	1.3	9.7	1.1	2.2	8.2	27.2	8.3	32.3	3.1	1.4	19.5
Utah.....	31	13	1.3	9.9	1.1	1.9	7.5	24.0	26.4	48.6	1.7	1.7	23.3
Pacific Division.....	10	3	0.2	2.0	0.1	0.3	1.6	4.2	2.6	5.2	1.5	0.4	6.2
INDUSTRY 1212.--LIGNITE													
United States, total.	45	7	0.5	3.3	0.4	0.8	2.6	12.9	6.5	17.9	1.5	0.5	11.8
West North Central.....	33	5	0.3	2.1	0.3	0.6	1.6	5.5	5.3	9.4	1.4	(NA)	(NA)
West South Central Division.....	12	2	0.2	1.3	0.1	0.3	1.0	7.4	1.2	8.5	0.2	(NA)	(NA)
West Region.....												(Z)	0.5

Note: Detail may not add to the total due to independent rounding.

(NA) Not available. (Z) Less than one-half of the unit of measure specified.

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1967 CENSUS OF MINERAL INDUSTRIES

TABLE 3. Quantity and Value of Shipments by All Producers: 1967 and 1963

(Includes quantity and value of products reported not only by establishments classified in this industry, but also by establishments classified in other industries, and shipping these products as "secondary" products. See appendix, under "Individual Products")

Geographic Area	Net coal shipments ¹		Raw coal shipped (including interplant transfers)		Prepared coal shipped (including interplant transfers)			
	Quantity	Value	Quantity	Value	Mechanically cleaned		Mechanically crushed, screened, or sized only	
					Quantity	Value	Quantity	Value
	(million short tons)	(million dollars)	(million short tons)	(million dollars)	(million short tons)	(million dollars)	(million short tons)	(million dollars)
INDUSTRY 1211.--BITUMINOUS COAL	1967							
United States, total.....	545.1	2,574.6	161.2	599.4	346.4	1,805.9	117.8	474.2
Middle Atlantic (Pennsylvania).....	83.1	436.7	35.6	137.9	52.9	315.1	16.6	72.5
East North Central, total.....	(D)	(D)	25.8	81.8	87.9	356.3	29.3	102.9
Ohio.....	46.9	186.5	21.9	71.3	17.4	79.5	16.7	60.7
Indiana.....	19.4	75.2	1.0	3.7	16.5	64.3	1.9	7.2
Illinois.....	(D)	(D)	2.9	6.8	54.0	212.6	10.7	35.0
West North Central.....	5.9	24.8	0.3	1.3	² 5.5	² 23.5	(²)	(²)
South Atlantic, total.....	187.7	981.6	55.5	212.2	135.6	763.7	25.3	116.8
Maryland.....	}	35.6	0.5	2.2	-	-	0.7	3.2
Virginia.....		15.2	54.7	17.7	102.9	7.3	33.8	
West Virginia.....		152.1	805.4	39.8	155.3	118.0	660.8	17.3	79.8
East South Central, total.....	117.5	522.2	40.3	143.0	60.3	305.2	32.6	130.3
Kentucky.....	94.6	379.1	33.0	113.7	49.2	217.3	26.3	95.1
Tennessee.....	}	23.0	7.3	29.3	11.1	87.9	3.5	15.4
Alabama.....		143.1	7.3	29.3	11.1	87.9	2.8	19.8
West South Central, total.....	1.1	6.6	0.2	1.1	² 0.9	² 5.4	(²)	(²)
Arkansas.....	0.2	1.6	}	1.1	² 0.9	² 5.4	(²)	(²)
Oklahoma.....	0.8	5.0						
Mountain, total.....	(D)	(D)	3.4	22.1	5.7	45.6	10.7	37.6
Montana.....	(D)	(D)	0.1	0.3	-	-	(D)	(D)
Wyoming.....	3.7	11.4	(D)	(D)	(D)	(D)	3.4	10.2
Colorado.....	5.7	32.3	(D)	(D)	(D)	(D)	3.2	14.7
New Mexico.....	(D)	(D)	0.1	0.2	(D)	(D)	(D)	(D)
Utah.....	(D)	(D)	(D)	(D)	3.4	30.8	(D)	(D)
Pacific.....	0.7	5.2	(Z)	(Z)	² 0.7	² 5.2	(²)	(²)
INDUSTRY 1212.--LIGNITE								
United States.....	³ 6.8	³ 17.7	0.3	0.8	-	-	6.5	16.9
INDUSTRY 1211.--BITUMINOUS COAL	1963							
United States, total.....	456.9	2,058.9	146.2	524.7	295.2	1,428.5	98.7	390.4
Middle Atlantic (Pennsylvania).....	72.3	367.1	28.6	112.9	44.8	255.4	16.8	66.9
East North Central, total.....	105.3	399.1	23.2	65.8	72.4	282.2	23.1	83.4
Ohio.....	38.1	143.7	16.0	47.0	14.6	59.2	15.9	58.6
Indiana.....	15.2	57.6	1.5	5.5	11.3	42.9	2.4	9.2
Illinois.....	52.1	197.9	5.6	13.3	46.5	180.1	4.9	15.6
West North Central.....	5.6	23.0	1.2	4.3	3.3	14.6	1.2	4.1
South Atlantic, total.....	163.8	780.3	53.6	200.9	117.3	589.6	23.4	97.4
Maryland.....	}	30.2	0.9	3.3	-	-	0.5	1.8
Virginia.....		15.4	52.9	^r 15.6	70.9	7.4	30.8	
West Virginia.....		133.6	652.6	37.4	144.7	101.7	518.8	15.5	64.8
East South Central, total.....	(NA)	(NA)	(NA)	(NA)	52.6	249.9	24.2	94.9
Kentucky.....	74.6	290.8	32.6	108.7	42.5	175.3	17.9	66.7
Tennessee.....	(NA)	(NA)	(NA)	(NA)	0.2	0.8	4.2	17.3
Alabama.....	(NA)	(NA)	2.0	9.9	10.0	73.8	2.0	10.9
West South Central, total.....	1.2	7.3	0.1	0.6	0.2	1.7	1.0	5.1
Arkansas.....	0.2	1.5	0.1	0.4	}	1.7	1.0	5.1
Oklahoma.....	1.0	5.8	(Z)	0.2				
Mountain, total.....	(NA)	(NA)	(NA)	(NA)	(D)	(D)	(D)	(D)
Montana.....	0.1	0.4	}	0.3	(D)	(D)	(Z)	0.2
Wyoming.....	3.1	8.9			(D)	(D)	3.1	8.4
Colorado.....	(NA)	(NA)			(NA)	0.6	2.8	3.1	19.4
New Mexico.....	2.0	6.6	0.4	1.4	(D)	(D)	(D)	(D)
Utah.....	(NA)	(NA)	(NA)	(NA)	3.0	24.7	1.2	5.3
Pacific.....	1.1	7.4	(Z)	0.1	(D)	(D)	(D)	(D)
INDUSTRY 1212.--LIGNITE								
United States.....	³ 5.0	³ 13.8	0.4	1.2	-	-	4.6	12.6

Note: Detail may not add to the total due to independent rounding.

- Represents zero. (D) Withheld to avoid disclosure of individual company data. (NA) Not available. ^rRevised. (Z) Less than one-half of the unit of measure specified.¹Represents gross shipments less coal received for preparation.²Figures for coal mechanically crushed, screened, or sized only are included with those for mechanically cleaned.³Represents gross shipments.

Table 4. Selected Supplies, Minerals Received for Preparation, and Purchased Machinery Installed: 1967 and 1963

(See appendix, "Explanation of Terms")

Code	Supplies	Unit of measure	1967		1963	
			Quantity	Cost (million dollars)	Quantity	Cost (million dollars)
	INDUSTRY 1211.--BITUMINOUS COAL					
	Selected supplies, minerals received for preparation, and purchased machinery installed, total.....		(X)	1,039.1	(X)	840.1
	Raw coal for preparation:					
121191	For mechanical cleaning.....	Million short tons	442.7	(X)	364.1	(X)
	Received from other establishments.....	do.....	61.9	242.7	60.0	210.8
	Mined and prepared at the same establishment.....	do.....	380.8	(X)	304.1	(X)
121193	For mechanical crushing, screening, or sizing only.....	do.....	118.3	(X)	99.0	(X)
	Received from other establishments.....	do.....	18.4	62.1	23.2	73.8
	Mined and prepared at the same establishment.....	do.....	100.0	(X)	75.8	(X)
353011	Purchased machinery installed.....		(X)	258.9	(X)	190.8
	Supplies used:					
289211	Explosive materials, except ammonium nitrate.....	Million pounds...	(NA)	17.0	249.1	21.4
289212	Ammonium nitrate.....	do.....	333.5	13.6		
289214	Blasting accessories.....		(X)	9.1	(X)	(¹)
331201	Steel mill shapes and forms.....	1,000 short tons.	(NA)	36.1	226.9	46.8
345210	Roof bolts.....	do.....	^e 159.9	39.0		
241100	Round or bewn woods products and stumpage.....		(X)	20.3	(X)	16.5
970099	All other supplies used.....		(X)	277.5	(X)	¹ 232.1
976000	Selected supplies, minerals received for preparation, and purchased machinery installed, n.s.k. ²		(X)	62.8	(X)	48.0
	INDUSTRY 1212.--LIGNITE					
	Selected supplies, minerals received for preparation, and purchased machinery installed, total.....		(X)	5.6	(X)	6.1
121193	Raw coal for mechanical crushing, screening, or sizing only.....	Million short tons	6.5	(X)	4.6	(X)
	Received from other establishments.....	do.....	(D)	(³)	(D)	(³)
	Mined and prepared at the same establishment.....	do.....	(D)	(X)	(D)	(X)
353011	Purchased machinery installed.....		(X)	3.2	(X)	4.3
	Supplies used:					
28921-	Explosive materials and blasting accessories.....		(X)	0.1	(X)	¹ 0.1
331201	Steel mill shapes and forms.....	1,000 short tons.	^e 0.4	0.2	0.2	0.1
241100	Round or bewn woods products and stumpage.....		(X)	³ 1.8	(X)	(Z)
970099	All other supplies used.....				(X)	¹ 3 1.5
976000	Selected supplies, minerals received for preparation, and pur- chased machinery installed, n.s.k. ²		(X)	0.3	(X)	0.1

Note: Detail may not add to the total due to independent rounding.

(D) Withheld to avoid disclosure of individual company data. ^eFrom 10 to 30 percent of this figure was estimated. (NA) Not available.
n.s.k. Not specified by kind. (X) Not applicable. (Z) Less than \$50 thousand.¹The cost of blasting accessories is included with all other supplies used.²This item represents the total cost of supplies for establishments that did not report detailed supplies data. For 1967 this also includes estimates for establishments that were not mailed report forms.³The cost of coal received from other establishments for preparation is included with all other supplies used.

GROUP 13

GROUP 14

SCOPE AND COVERAGE

This report is one of a series presenting preliminary information on industries and products from the 1967 Census of Mineral Industries. The data will be superseded in a final report which in turn will be included in Volume I, Summary and Industry Statistics, 1967 Census of Mineral Industries. That report will include a comprehensive discussion of the concepts and definitions used in the census.

The census of mineral industries covers each mining establishment of firms in the United States with one or more paid employees. Firms which operate more than one establishment were required to file a separate report for each location. Companies which engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation and the activities were of significant size.

For oil and gas field operation and contract services, reports were required for units somewhat different from the "establishment" reporting unit used for other types of mining. Every concern which operated oil and gas wells, drilled such wells for its own account or for others, performed exploration work for oil or gas, or performed oil and gas field services for others during any part of calendar year 1967 was required to submit a separate report for each State or for each district within Texas, Louisiana, New Mexico, and California (however, information on employment, oil and gas production, and capital expenditures was requested by county). Further, concerns which supplied contract services for others were required to submit a separate report for each State. (In this instance also, information on employment, receipts for services, and capital expenditures was requested by county.)

In the 1967 census, for the first time, approximately 10,000 single-unit establishments with 1 to 4 employees were excused from filing reports. Under special arrangements which safeguarded the confidentiality of both tax and census records, limited data on payrolls, sales, and industry classification from the administrative records of the Social Security Administration and the Internal Revenue Service were made available to the Census Bureau for use in the 1967 censuses of business, manufactures, and mineral industries. Estimates for data other than payrolls and sales for these small establishments were constructed from industry averages. The effect on industry aggregates is slight in most industries. For mining as a whole, they account for less than 1 percent of value added. In industry 1211, these small establishments accounted for approximately 1 percent of value added and in industry 1212 these small establishments accounted for approximately 2 percent of value added.

In the 1967 Census of Mineral Industries, data for all single-unit establishments without paid employees were excluded because of the difficulty in

developing a mailing list for these establishments. The exclusion of these establishments has had only a slight effect on industry aggregates for most industries. Data for establishments without employees were included in the 1963, 1958, and 1954 censuses if these establishments reported more than \$500 in one of the following data items: (1) value of shipments and receipts, (2) cost of supplies and purchased machinery, or (3) capital expenditures. In the 1963 census, establishments without paid employees for mining as a whole accounted for approximately 3 percent of value added, while they accounted for less than 1 percent of value added for industry 1211 and for industry 1212.

As in earlier censuses, a number of small establishments may have been misclassified as to industry. However, such possible misclassifications have no significant effect on the statistics other than the number of establishments. As indicated above, report forms were not mailed to very small establishments (less than 5 employees). The industry classifications for these establishments were assigned on the basis of brief descriptions of the general activity of the establishment. Where the description is incomplete or there are relatively fine lines of demarcation between industries or between mining and nonmining activity, the code assigned to an establishment could differ from that which would have been assigned on the basis of more complete product information. Therefore, the total establishment count should be reviewed as an approximation rather than a precise measurement. The counts of establishments with 20 or more employees are far more reliable than the total number of establishments.

More detailed figures for this industry will appear in the final census reports. Final reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each mineral industry and for each State are being issued. Final industry reports and final area reports will be published during the spring and fall of 1970. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C. 20233.

The 1967 Census of Mineral Industries is the 16th census of mineral establishments in the United States. For 1967, it was conducted jointly with the censuses of manufactures, retail trade, wholesale trade, and selected services under authority of Title 13 of the United States Code. Title 13 specified that a census of mineral industries be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7."

Appendix

EXPLANATION OF TERMS

(For a more complete discussion of these terms and the method of compiling the Census of Mineral Industries, see the Introduction to the 1963 Census of Mineral Industries, Volume I.)

All Employees--All full-time and part-time employees on the payrolls of operating mineral establishments for any part of the pay period ended nearest the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of the corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The number of production workers is the average of those for mid-month payroll periods of March, May, August, and November. The "all employee" number is the average number of production workers plus the number of other employees in mid-March.

Payroll--This item includes all forms of compensation such as salaries, wages, commissions, dismissal pay, all bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' Social Security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of these establishments, if a corporation; it excludes payments to the proprietor or partners, if an unincorporated concern. Respondents were told that in reporting they could follow the definition of payroll used for calculating the Federal withholding tax.

Production, Development, and Exploration Worker Man-Hours--The total man-hours figures represent all man-hours that production, development, and exploration workers worked both on active days during which there was production or development work, and inactive days, when only watchmen, inspectors, repairmen, and other maintenance men were on duty. They include all man-hours worked or paid for at the mining operations, except hours paid for vacations, holidays, or sick leave, when the employee was not at the establishment. Included are actual overtime hours, not straight-time equivalent hours. Man-hours of working proprietors or partners are excluded.

Cost of Supplies, etc., and Purchased Machinery--The 1967 census report forms requested information on supplies and purchased machinery installed; fuels and electric energy used; and contract work done by others for each establishment. These items included charges to both the current and capital accounts. The figures reported were to include items used during 1967 whether purchased, withdrawn from inventories, or received from other establishments of the company. For selected supplies and fuels and for electric energy, both quantity and cost data were requested. The cost data refer to direct charges actually paid or payable (after discounts) for items used during the year. Freight charges and other direct charges incurred by the establishment in acquiring the items are included. Where the company's records did not show actual amounts used, they were asked to approximate use by adding purchases (or receipts) during the year to opening inventory and subtracting closing inventory.

Separate figures were obtained for (a) selected supplies, minerals received for preparation, and purchased machinery installed; (b) electric energy purchased; (c) purchased fuels used for heat, power, or the generation of electricity; (d) contract work done by others; and (e) products bought and resold in the same condition. Supplies and equipment used in mine development, plant expansion, and capitalized repairs, which are chargeable to fixed assets accounts, were included, as were supplies furnished without charge to contractors for use at the mining operation and supplies sold to employees for use at the establishment. No data on such costs as advertising, insurance, telephone, and research and consulting services of other establishments; or on overhead costs, such as depreciation charges, rent, interest, and royalties were included in this item.

Specific Supplies Used and Minerals Prepared--In addition to the total cost of supplies, etc., and purchased machinery which every establishment was required to report, information was also collected on the consumption of major supplies used in mining. These supplies inquiries were restricted to those supplies which were important parts of the cost of production, exploration, and development of a particular industry and for which cost information was available from the firms' records. Information regarding the specific supplies consumed is shown in table 4.

On report forms for almost all mineral industries, except the contract services industries, a uniform inquiry was included on minerals prepared at the reported establish-

ments. Figures were obtained on minerals prepared from three sources: (1) Crude minerals mined at the establishment (quantity); (2) crude minerals received from other establishments of the company or purchased from others (quantity and cost); and (3) crude minerals received for preparation on a custom or toll basis (quantity and estimated value).

Establishments consuming less than a specified amount (usually \$5,000) were not requested to report the cost of a supply separately. Also, the cost of supplies for small establishments for which administrative records were used were imputed as "not specified by kind." (See text for importance of administrative records in the industry.)

Capital Expenditures--In the 1967 census, mining companies were asked to report expenditures made during the year for development and exploration of mineral properties, for new construction, and for machinery purchased at their operations that was chargeable to fixed assets accounts of the mineral establishment and were of a type for which depreciation, depletion, or Office of Minerals Exploration accounts were ordinarily maintained. Capital expenditures during 1967 were to be determined as "additions completed during the year plus construction in progress at the end of the year minus construction in progress at the beginning of the year." Reported capital expenditures were to include work done on contract as well as by the mine forces. Expenditures for machinery and equipment were to include those made for replacement purposes, as well as those for additions to capacity. Excluded from such expenditures totals are costs of maintenance and repairs charged as current operating expense. Also excluded are expenditures for land and mineral rights.

Wherever applicable, separate figures were provided for expenditures for (a) development and exploration of mineral property, (b) preparation plant construction and other construction, (c) new machinery and equipment, and (d) used plant and used equipment acquired from others.

Value of Shipments--The amounts under value of shipments are the values, f.o.b., mine, well, or plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts such as receipts for contract work performed for others, installation and repair, sales of scrap, and sale of products bought and resold without further processing. Included are all items produced by

the establishments and sold, transferred to other plants of the same company, or shipped on consignment.

In the case of multiunit companies, the firm was requested to report the value of products transferred to other establishments of the same company at full economic or commercial value, i.e., include not only the direct costs of production but also a reasonable proportion of "all other costs" (including company overhead) and profit.

Individual Products--In the 1967 Census of Mineral Industries, information on output of about 225 individual mineral product items was collected.

In general, the 1967 and 1963 minerals censuses figures were confined to separate totals for each crude and each prepared mineral. Where significant, separate shipments figures were also obtained for crude minerals going to preparation plants and those going to consumers.

Figures were collected on both quantity and value of shipments. Shipments include commercial shipments and transfers of products to other operations of the same company. For products which are used to a significant extent within the same establishment for power or heat, and for minerals mined and prepared in the same establishment, total production or separate data on production for such uses were collected. Typically, production was also collected for products for which there are usually significant differences between total production and total shipments as a result of stock changes.

For service industries, the amount received or due for services performed during 1967 was collected as a measure of output. For mine operators who also perform services, the amount received for such services was added to the total value of products shipped to determine total value of shipments and receipts for each establishment.

Table 3 of the individual industry reports provides the national and regional total shipments from all industries for each of the products primary to the industries covered in the report.

Shipments and Production--Shipments figures include all products physically shipped from the establishment during 1967, including material withdrawn from stockpiles and products shipped on consignment, whether or not sold in 1967. Prepared material or concentrates include prep-

aration from ores mined at the same establishment, purchased, received from other operations of the same company, or received for milling on a custom or toll basis. For products transferred to other establishments of the same company or prepared on a custom basis, the company was requested to include, in addition to direct costs of production, a reasonable proportion of company overhead and profits.

For industry and industry group totals, some duplication is introduced by the inclusion of materials transferred from one establishment to another for mineral preparation. Wherever value of shipments is shown without further specification, it represents gross shipments.

For years prior to 1954, data on shipments were not collected. Instead, the report forms requested data on the quantity and value of

production. In general, the data for these years were edited to represent net production, excluding duplications due to mining and later preparing the same material in the same industry.

Value Added in Mining--Since the 1954 census, this measure has been computed by subtracting the cost of supplies, etc., and purchased machinery from the sum of value of shipments and receipts and capital expenditures. This statistic avoids the duplication in value of shipments which results from the use of products of some establishments as supplies, energy sources, or materials by others. Moreover, it provides a measure of value added not only in mineral production, but also in the development of mineral properties. For these reasons, it is considered to be the best value measure for comparing the relative economic importance of mining among industries and geographic areas.

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1967 Census of MINERAL INDUSTRIES

INDUSTRY SERIES



U.S. DEPARTMENT OF COMMERCE / Bureau of the Census

preliminary report

MIC67(P)-12A-2

Bituminous coal and lignite mining services

SIC Code 1213

The Bituminous Coal and Lignite Mining Services Industry includes establishments primarily engaged in performing for others on a contract, fee, or other basis bituminous coal and lignite mining services, such as the removal of overburden, strip and auger mining, drilling, shaft sinking, and mine tunneling.

This report includes figures for administrative offices, warehouses, storage facilities, and other auxiliary units which service mining establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions contained in the 1967 edition

of the Standard Industrial Classification (SIC) Manual.

In 1967, the value of services performed and miscellaneous receipts of establishments classified in the Bituminous Coal and Lignite Mining Services Industry amounted to \$29.4 million, an increase of 22.5 percent compared with 1963. Value added in mining amounted to \$21.7 million in 1967, an increase of 29.2 percent from 1963. Average employment in the industry showed an increase of 7.7 percent from 1963 to a total of 1.4 thousand employees in 1967.

For an explanation of the terms used in the tables, see appendix at the end of this report.

TABLE 1. General Statistics: 1967 and Earlier Years

(See appendix, "Explanation of Terms")

Year	Establishments		All employees		Production, development, and exploration workers			Value added in mining	Cost of supplies, etc., and purchased machinery installed	Value of shipments and receipts	Capital expendi- tures
	Total	With 20 employ- ees or more	Number	Payroll	Number	Man-hours	Wages				
	(number)	(number)	(1,000)	(million dollars)	(1,000)	(millions)	(million dollars)	(million dollars)	(million dollars)	(million dollars)	(million dollars)
INDUSTRY 1213.--BITUMINOUS COAL AND LIGNITE MINING SERVICES											
1967.....	121	18	1.4	10.5	1.3	2.8	9.6	21.7	10.9	29.4	3.2
1963.....	131	17	1.3	7.0	1.2	2.3	6.4	16.8	10.1	24.0	2.9
1958.....	157	21	1.5	7.3	1.4	2.5	6.5	15.1	9.3	21.6	2.8
1954.....	152	20	1.4	6.1	1.3	2.5	5.5	12.5	7.5	17.6	2.4
1939.....	(NA)	(NA)	0.2	0.3	0.2	0.4	0.2	0.5	0.1	0.6	(Z)
1902 ¹	(NA)	(NA)	5.0	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	1.2	(NA)

(NA) Not available. (Z) Less than \$50 thousand.

¹Represents number of employees engaged in all contract work and payments for all contract work as reported by companies operating bituminous coal and lignite mines.

SCOPE AND COVERAGE

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For oil and gas field operation and contract services, reports were required for units somewhat different from the "establishment" reporting unit used for other types of mining. Every concern which operated oil and gas wells, drilled such wells for its own account or for others, performed exploration work for oil or gas, or performed oil and gas field services for others during any part of calendar year 1967 was required to submit a separate report for each State or for each district within Texas, Louisiana, New Mexico, and California (however, information on employment, oil and gas production, and capital expenditures was requested by county). Further, concerns which supplied contract services for others were required to submit a separate report for each State. (In this instance also, information on employment, receipts for services, and capital expenditures was requested by county.)

In the 1967 census, for the first time, approximately 10,000 single-unit establishments with 1 to 4 employees were excused from filing reports. Under special arrangements which safeguarded the confidentiality of both tax and census records, limited data on payrolls, sales, and industry classification from the administrative records of the Social Security Administration and the Internal Revenue Service were made available to the Census Bureau for use in the 1967 censuses of business, manufactures, and mineral industries. Estimates for data other than payrolls and sales for these small establishments were constructed from industry averages. The effect on industry aggregates is slight in most industries. For mining as a whole, they account for less than 1 percent of value added. In industry 1213, these small establishments accounted for approximately 4 percent of value added.

In the 1967 Census of Mineral Industries, data for all single-unit establishments without paid employees were excluded because of the difficulty in

developing a mailing list for these establishments. The exclusion of these establishments has had only a slight effect on industry aggregates for most industries. Data for establishments without employees were included in the 1963, 1958, and 1954 censuses if these establishments reported more than \$500 in one of the following data items: (1) value of shipments and receipts, (2) cost of supplies and purchased machinery, or (3) capital expenditures. In the 1963 census, establishments without paid employees for mining as a whole accounted for approximately 3 percent of value added, while they accounted for less than 1 percent of value added for industry 1213.

As in earlier censuses, a number of small establishments may have been misclassified as to industry. However, such possible misclassifications have no significant effect on the statistics other than the number of establishments. As indicated above, report forms were not mailed to very small establishments (less than 5 employees). The industry classifications for these establishments were assigned on the basis of brief descriptions of the general activity of the establishment. Where the description is incomplete or there are relatively fine lines of demarcation between industries or between mining and nonmining activity, the code assigned to an establishment could differ from that which would have been assigned on the basis of more complete product information. Therefore, the total establishment count should be reviewed as an approximation rather than a precise measurement. The counts of establishments with 20 or more employees are far more reliable than the total number of establishments.

More detailed figures for this industry will appear in the final census reports. Final reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each mineral industry and for each State are being issued. Final industry reports and final area reports will be published during the spring and fall of 1970. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C. 20233.

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Appendix

EXPLANATION OF TERMS

(For a more complete discussion of these terms and the method of compiling the Census of Mineral Industries, see the Introduction to the 1963 Census of Mineral Industries, Volume I.)

All Employees--All full-time and part-time employees on the payrolls of operating mineral establishments for any part of the pay period ended nearest the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of the corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The number of production workers is the average of those for mid-month payroll periods of March, May, August, and November. The "all employee" number is the average number of production workers plus the number of other employees in mid-March.

Payroll--This item includes all forms of compensation such as salaries, wages, commissions, dismissal pay, all bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' Social Security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of these establishments, if a corporation; it excludes payments to the proprietor or partners, if an unincorporated concern. Respondents were told that in reporting they could follow the definition of payroll used for calculating the Federal withholding tax.

Production, Development, and Exploration Worker Man-Hours--The total man-hours figures represent all man-hours that production, development, and exploration workers worked both on active days during which there was production or development work, and inactive days, when only watchmen, inspectors, repairmen, and other maintenance men were on duty. They include all man-hours worked or paid for at the mining operations, except hours paid for vacations, holidays, or sick leave, when the employee was not at the establishment. Included are actual overtime hours, not straight-time equivalent hours. Man-hours of working proprietors or partners are excluded.

Cost of Supplies, etc., and Purchased Machinery--The 1967 census report forms requested information on supplies and purchased machinery installed; fuels and electric energy used; and contract work done by others for each establishment. These items included charges to both the current and capital accounts. The figures reported were to include items used during 1967 whether purchased, withdrawn from inventories, or received from other establishments of the company. For selected supplies and fuels and for electric energy, both quantity and cost data were requested. The cost data refer to direct charges actually paid or payable (after discounts) for items used during the year. Freight charges and other direct charges incurred by the establishment in acquiring the items are included. Where the company's records did not show actual amounts used, they were asked to approximate use by adding purchases (or receipts) during the year to opening inventory and subtracting closing inventory.

Separate figures were obtained for (a) selected supplies, minerals received for preparation, and purchased machinery installed; (b) electric energy purchased; (c) purchased fuels used for heat, power, or the generation of electricity; (d) contract work done by others; and (e) products bought and resold in the same condition. Supplies and equipment used in mine development, plant expansion, and capitalized repairs, which are chargeable to fixed assets accounts, were included, as were supplies furnished without charge to contractors for use at the mining operation and supplies sold to employees for use at the establishment. No data on such costs as advertising, insurance, telephone, and research and consulting services of other establishments; or on overhead costs, such as depreciation charges, rent, interest, and royalties were included in this item.

Specific Supplies Used and Minerals Prepared--In addition to the total cost of supplies, etc., and purchased machinery which every establishment was required to report, information was also collected on the consumption of major supplies used in mining. These supplies inquiries were restricted to those supplies which were important parts of the cost of production, exploration, and development of a particular industry and for which cost information was available from the firms' records. Information regarding the specific supplies consumed is shown in table 4.

On report forms for almost all mineral industries, except the contract services industries, a uniform inquiry was included on minerals prepared at the reported establish-

U.S. DEPARTMENT OF COMMERCE
Bureau of the Census
Washington, D.C. 20233

OFFICIAL BUSINESS



POSTAGE AND FEES PAID
U.S. DEPARTMENT OF COMMERCE

GROUP 13

GROUP 14



1967 Census of MINERAL INDUSTRIES

INDUSTRY SERIES



U.S. DEPARTMENT OF COMMERCE / Bureau of the Census

preliminary report

MIC67(P)-13A-1

Crude petroleum and natural gas

SIC Code 1311

The Crude Petroleum and Natural Gas Industry includes establishments primarily engaged in operating oil and gas field properties. Such activities include exploration for crude petroleum and natural gas; drilling, completing, and equipping wells; operation of separators, emulsion breakers, desilting equipment; and all other activities incident to making oil and gas marketable up to the point of shipment from the producing property. This industry also includes the production of oil through the mining and extraction of oil from oil shale and oil sands. Establishments primarily engaged in performing oil field services for operators on a contract, fee, or other basis are classified in Group 138, Oil and Gas Field Services.

This report includes figures for administrative offices, warehouses, storage facilities, and other auxiliary units which service mining establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions contained in the 1967 edition of the Standard Industrial Classification (SIC) Manual.

In 1967, the value of products shipped and miscellaneous receipts of establishments classified in the Crude Petroleum and Natural Gas Industry amounted to \$11,737.0 million, an increase of 18.6 percent compared with 1963. Value added in mining amounted to \$10,956.4 million in 1967, an increase of 21.5 percent from 1963. Average employment in the industry showed a decrease of 12.7 percent from 1963 to a total of 126.8 thousand employees in 1967.

For an explanation of the terms used in the tables, see appendix at the end of this report.

GROUP 14

TABLE 1. General Statistics: 1967 and Earlier Years

(See appendix, "Explanation of Terms")

Year	Establishments ¹		All employees		Production, development, and exploration workers			Value added in mining (million dollars)	Cost of supplies, etc., and purchased machinery installed (million dollars)	Value of shipments and receipts (million dollars)	Capital expenditures (million dollars)
	Total	With 20 employees or more	Number	Payroll	Number	Man-hours	Wages				
	(number)	(number)	(1,000)	(million dollars)	(1,000)	(millions)	(million dollars)				
	INDUSTRY 1311.--CRUDE PETROLEUM AND NATURAL GAS										
1967, total.....	8,794	1,032	126.8	1,051.6	66.8	131.4	443.6	10,956.4	3,297.2	11,737.0	2,516.6
Crude petroleum sub-industry.....	7,291	852	106.6	900.5	55.1	108.0	366.3	8,926.2	2,743.9	9,645.2	2,025.0
Natural gas subindustry...	1,503	180	20.1	151.1	11.8	23.3	77.3	2,030.1	553.3	2,091.8	491.6
1963, total.....	14,378	954	145.2	1,016.4	83.4	166.3	494.9	9,016.4	3,087.3	9,893.8	2,209.9
Crude petroleum sub-industry.....	12,326	789	125.8	892.6	71.7	142.8	426.8	7,813.0	2,693.6	8,600.1	1,906.5
Natural gas subindustry...	2,052	165	19.4	123.8	11.7	23.5	68.1	1,203.4	393.7	1,293.7	303.4
1958, total.....	12,010	1,093	180.1	1,043.1	102.5	201.0	497.9	² 7,339.9	2,997.2	² 8,385.9	1,947.6
Crude petroleum sub-industry.....	10,620	975	164.8	966.8	92.4	181.3	453.2	² 6,823.3	2,701.5	² 7,809.9	1,711.4
Natural gas subindustry...	1,390	118	15.3	76.3	10.1	19.7	44.6	516.6	295.7	576.0	236.3
1954, total ²	11,508	1,042	172.5	835.7	109.8	216.6	460.0	6,129.2	2,839.3	7,070.1	1,898.5
Crude petroleum sub-industry ²	10,101	(NA)	161.3	790.9	101.5	201.1	430.5	5,741.3	2,671.9	6,642.5	1,770.7
Natural gas subindustry...	1,407	(NA)	11.2	44.8	8.3	15.5	29.5	388.0	167.5	427.6	127.8
1939 ²	8,605	(NA)	136.1	234.9	105.5	190.7	155.7	1,072.0	³ 304.0	1,376.0	(NA)
1919 ² ⁴	9,970	(NA)	111.6	169.3	93.7	(NA)	135.4	613.7	³ 318.0	931.8	(NA)
1909 ⁴	8,202	(NA)	44.0	35.6	37.6	(NA)	28.1	111.9	³ 73.6	185.4	(NA)
1902.....	(NA)	(NA)	27.6	21.3	⁵ 22.4	(NA)	16.4	59.0	³ 43.2	102.3	(NA)
1889.....	(NA)	(NA)	29.2	10.3	26.9	(NA)	8.7	15.3	³ 22.7	38.0	(NA)
1880.....	(NA)	(NA)	11.5	7.2	(NA)	(NA)	(NA)	17.7	³ 6.9	24.6	(NA)
1870.....	2,314	(NA)	4.5	4.0	(NA)	(NA)	(NA)	17.9	³ 1.4	19.3	(NA)
1860 ⁶	64	(NA)	0.9	0.3	(NA)	(NA)	(NA)	2.1	³ 2.2	4.3	(NA)

Note: Detail may not add to total due to independent rounding.

(NA) Not available.

¹Figures for 1967 and 1963 and earlier years are not entirely comparable. Prior to 1963, each report (establishment) represented all operations in an entire state. For 1967 and 1963, companies filed separate establishment reports by districts for Louisiana, Texas, and New Mexico. For 1967, companies also filed separate establishment reports for offshore operations by State and for districts in California. In addition, in 1967, single unit establishments without paid employees were excluded from the Census.

²Excludes Alaska: for 1958, figures for 17 establishments; for 1954, figures for 5 establishments; for 1919, figures for 1 establishment.

³Excludes the cost of purchased machinery installed.

⁴Includes statistics for the Natural Gas Liquids Industry.

⁵Figures for average employment were reduced to a 300-day basis for establishments which operated for a shorter period.

⁶These figures were reported as "oil, coal" and probably include some refining as well as production of crude petroleum, or may represent primarily the recovery of oil from coal.

TABLE 2. General Statistics, by Geographic Areas: 1967 and 1963

(See appendix, "Explanation of Terms")

Geographic area	1967											1963	
	Establishments		All employees		Production, development, and exploration workers			Value added in mining	Cost of supplies, etc., and purchased machinery installed	Value of shipments and receipts	Capital expenditures	All employees	Value added in mining
	Total	With 20 employees or more	Number	Payroll	Number	Man-hours	Wages						
	(number)	(number)	(1,000)	(million dollars)	(1,000)	(millions)	(million dollars)	(million dollars)	(million dollars)	(million dollars)	(1,000)	(million dollars)	
	INDUSTRY 1311.--CRUDE PETROLEUM AND NATURAL GAS												
United States, total...	8,794	1,032	126.8	1,051.6	66.8	131.4	443.6	10,956.4	3,297.2	11,737.0	2,516.6	145.2	9,016.4
Crude petroleum sub-industry.....	7,291	852	106.6	900.5	55.1	108.0	366.3	8,926.2	2,743.9	9,645.2	2,025.0	125.8	7,813.0
Natural gas subindustry.....	1,503	180	20.1	151.1	11.8	23.3	77.3	2,030.1	553.3	2,091.8	491.6	19.4	1,203.4
Middle Atlantic, total...	462	34	3.3	23.6	2.3	4.4	11.4	46.9	17.2	54.3	9.8	4.7	50.4
Crude petroleum sub-industry.....	341	20	2.0	15.3	1.3	2.4	6.0	23.5	8.9	28.6	3.7	2.4	24.9
Natural gas subindustry.....	121	14	1.3	8.3	1.0	2.1	5.4	23.4	8.3	25.7	6.1	2.3	25.5
New York.....	97	11	0.7	6.7	0.3	0.5	1.4	8.3	2.2	9.1	1.3	0.9	8.0
Pennsylvania.....	365	23	2.6	16.9	2.0	3.9	10.0	38.7	15.0	45.2	8.5	3.8	42.4
Crude petroleum sub-industry.....	258	11	1.5	9.9	1.0	1.9	4.9	16.9	6.9	21.0	2.8	1.8	18.1
Natural gas subindustry.....	107	12	1.1	7.0	1.0	2.0	5.1	21.7	8.1	24.2	5.7	2.1	24.4
East North Central, total	827	66	5.8	37.6	4.4	7.9	24.1	214.8	74.9	247.6	42.1	8.0	277.4
Crude petroleum sub-industry.....	758	62	5.5	35.5	4.1	7.5	22.7	200.7	70.2	235.5	35.4	7.6	267.1
Natural gas subindustry.....	69	4	0.4	2.1	0.3	0.4	1.4	14.1	4.7	12.1	6.7	0.4	10.2
Illinois.....	307	39	3.3	20.2	2.6	4.8	14.8	144.3	44.5	165.9	23.0	4.3	186.9
West North Central, total	676	87	7.1	48.5	4.5	8.7	25.5	397.4	123.3	461.3	59.4	8.5	455.9
Crude petroleum sub-industry.....	615	79	5.7	36.7	4.1	7.9	22.4	299.3	111.3	357.2	53.4	7.6	380.8
Natural gas subindustry.....	61	8	1.4	11.8	0.4	0.9	3.1	98.1	12.0	104.2	5.9	0.9	75.1
North Dakota.....	53	3	0.4	3.2	0.3	0.6	2.0	51.5	26.7	62.9	15.2	0.4	55.0
Kansas.....	526	76	5.3	33.4	4.0	7.7	22.0	321.8	87.2	368.2	40.9	7.4	350.7
South Atlantic, total....	565	20	2.8	17.0	2.0	3.9	9.7	71.3	26.4	75.8	22.0	3.4	52.1
Crude petroleum sub-industry.....	270	8	1.1	7.1	0.8	1.6	3.5	12.2	9.5	16.4	5.3	1.6	10.2
Natural gas subindustry.....	295	12	1.7	9.9	1.2	2.3	6.2	59.2	17.0	59.4	16.7	1.9	41.9
East South Central, total	324	38	3.4	22.9	2.4	4.8	14.0	218.6	77.4	239.4	56.3	4.6	237.3
Crude petroleum sub-industry.....	283	33	2.5	17.4	1.7	3.5	10.0	179.9	69.2	200.4	48.6	3.7	218.1
Natural gas subindustry.....	41	5	0.9	5.5	0.7	1.3	4.0	38.7	8.2	39.2	7.8	0.9	19.2
Kentucky.....	185	16	1.9	10.5	1.6	3.0	7.9	51.1	13.4	53.8	10.7	2.6	58.8
Mississippi.....	105	20	1.4	11.6	0.8	1.6	5.5	149.2	59.2	165.5	42.9	1.9	162.8
West South Central, total	4,700	594	81.0	696.2	39.1	77.4	267.8	7,939.0	2,176.8	8,443.5	1,672.2	91.0	6,060.0
Crude petroleum sub-industry.....	3,960	481	69.0	601.4	32.5	64.0	221.2	6,383.7	1,740.0	6,800.0	1,323.8	80.7	5,150.8
Natural gas subindustry.....	740	113	12.1	94.7	6.6	13.4	46.6	1,555.3	436.9	1,643.7	348.5	10.3	909.2
Arkansas.....	122	9	0.7	4.7	0.5	1.0	3.1	68.5	14.7	69.5	13.7	1.2	58.5
Louisiana, total.....	508	117	18.9	170.3	10.8	22.5	83.2	3,203.0	997.5	3,334.7	865.8	17.1	2,107.2
Crude petroleum sub-industry.....	361	73	14.3	132.5	7.8	16.2	60.9	2,432.7	744.3	2,502.3	674.6	14.3	1,719.3
Natural gas subindustry.....	147	44	4.6	37.8	3.0	6.3	22.3	770.3	253.3	832.4	191.2	2.8	387.9

See footnotes at end of table.

TABLE 2. General Statistics, by Geographic Areas: 1967 and 1963—Continued

(See appendix, "Explanation of Terms")

Geographic area	1967											1963	
	Establishments		All employees		Production, development, and exploration workers			Value added in mining	Cost of supplies, etc., and purchased machinery installed	Value of shipments and receipts	Capital expendi- tures	All employees	Value added in mining
	Total	With 20 employ- ees or more	Number	Payroll	Number	Man-hours	Wages						
	(number)	(number)	(1,000)	(million dollars)	(1,000)	(millions)	(million dollars)	(million dollars)	(million dollars)	(million dollars)	(million dollars)	(1,000)	(million dollars)
	INDUSTRY 1311.--CRUDE PETROLEUM AND NATURAL GAS--Continued												
West South Central-- Continued													
Oklahoma, total.....	928	105	16.3	133.6	7.3	13.9	45.8	773.6	228.9	843.8	158.7	18.6	627.4
Crude petroleum sub- industry.....	848	100	15.5	127.6	6.9	13.1	43.1	652.5	209.3	718.9	142.9	17.9	561.0
Natural gas subindus- try.....	80	5	0.8	6.1	0.5	0.8	2.7	121.1	19.6	124.9	15.8	0.7	66.4
Texas, total.....	3,142	363	45.1	387.6	20.4	40.0	135.7	3,893.8	935.7	4,195.5	634.0	54.1	3,267.0
Crude petroleum sub- industry.....	2,649	300	38.5	337.3	17.3	33.8	114.5	3,252.5	776.3	3,529.8	499.1	47.4	2,821.2
Natural gas subindus- try.....	493	63	6.6	50.3	3.1	6.2	21.2	641.3	159.4	665.7	135.0	6.7	445.8
Mountain, total.....	740	95	8.7	74.5	4.4	8.8	31.7	1,038.9	311.6	1,124.5	226.0	11.5	969.3
Crude petroleum sub- industry.....	613	80	6.9	61.8	3.4	6.7	24.1	925.7	273.6	1,009.8	189.6	9.4	886.7
Natural gas subindus- try.....	127	15	1.7	12.7	1.1	2.1	7.6	113.2	37.9	114.7	36.4	2.1	82.6
Montana.....	104	8	0.6	4.5	0.4	0.8	2.8	75.6	27.9	80.9	22.6	1.1	59.0
Wyoming.....	141	25	2.1	18.2	1.2	2.5	9.5	358.9	101.3	398.2	62.0	2.9	334.3
Colorado.....	159	24	2.3	25.3	0.4	0.9	4.2	82.2	32.2	98.3	16.1	2.7	109.9
New Mexico.....	261	31	3.3	23.8	2.1	4.1	13.4	447.3	123.6	469.1	101.8	4.2	376.3
Crude petroleum sub- industry.....	201	29	2.2	16.8	1.4	2.8	9.0	360.6	101.4	386.1	75.9	2.9	322.1
Natural gas subindus- try.....	60	2	1.1	7.0	0.7	1.3	4.4	86.6	22.2	83.0	25.9	1.3	54.1
Pacific, total.....	460	98	14.6	131.1	7.6	15.4	59.2	1,025.9	487.0	1,088.9	424.0	13.5	914.0
Crude petroleum sub- industry.....	414	89	13.8	125.1	7.2	14.5	56.2	898.3	459.1	996.8	360.6	12.9	874.3
Natural gas subindus- try.....	46	9	0.8	6.0	0.5	0.9	3.0	127.6	27.9	92.1	63.4	0.6	39.7
California.....	420	91	14.2	126.1	7.5	15.0	57.0	923.5	356.0	1,006.8	272.7	13.2	885.9
Alaska.....	23	6	0.3	4.3	0.2	0.3	2.1	101.9	125.7	81.7	145.8	0.3	30.0

Note: Detail may not add to total due to independent rounding.

¹Includes data for central offices or related facilities in New Jersey.

**TABLE 3. Quantity and Value of Shipments by All Producers,
by Geographic Areas: 1967 and 1963**

(Includes quantity and value of products reported not only by establishments classified in this industry, but also by establishments classified in other industries, and shipping these products as "secondary" products. See appendix under "Individual Products")

Product code	Product and geographic area	Unit of measure	Shipments including interplant transfers			
			1967		1963	
			Quantity	Value (million dollars)	Quantity	Value (million dollars)
	UNITED STATES					
1311---	Crude petroleum and natural gas, total.....	.....	(X)	11,709.6	(X)	9,882.5
1311103	Crude petroleum, including lease condensate.....	Million barrels.	3,043.7	8,845.9	2,702.0	7,713.7
13112--	Natural gas, total.....	billion cubic feet ¹	16,991.4	2,863.8	13,765.0	2,168.7
1311212	To distributors and transmission companies and net to natural gas liquids plants.....	...do.....	15,916.4	2,657.4	12,912.8	2,015.7
1311222	To consumers (domestic, commercial, and industrial, including own refineries).....	...do.....	1,075.0	206.4	852.2	153.1
	MIDDLE ATLANTIC					
1311---	Crude petroleum and natural gas, total.....	.....	(X)	52.7	(X)	55.9
1311103	Crude petroleum, including lease condensate.....	Million barrels.	5.8	25.8	6.8	29.3
13112--	Natural gas.....	billion cubic feet ¹	77.6	26.9	90.3	26.5
	EAST NORTH CENTRAL					
1311---	Crude petroleum and natural gas, total.....	.....	(X)	249.7	(X)	328.6
1311103	Crude petroleum, including lease condensate.....	Million barrels.	78.2	236.3	106.8	311.9
13112--	Natural gas.....	billion cubic feet ¹	50.2	13.4	70.2	16.7
	ILLINOIS					
1311103	Crude petroleum, including lease condensate.....	Million barrels.	54.8	166.1	72.3	² 214.5
	WEST NORTH CENTRAL					
1311---	Crude petroleum and natural gas, total.....	.....	(X)	460.5	(X)	525.4
1311103	Crude petroleum, including lease condensate.....	Million barrels.	119.2	340.4	151.5	425.2
13112--	Natural gas.....	billion cubic feet ¹	915.0	120.1	761.0	100.2
	KANSAS					
1311--	Crude petroleum and natural gas, total.....	.....	(X)	367.3	(X)	401.5
1311103	Crude petroleum, including lease condensate.....	Million barrels.	86.0	251.1	108.3	305.2
13112--	Natural gas.....	billion cubic feet ¹	873.7	116.2	722.4	96.3
	SOUTH ATLANTIC					
1311---	Crude petroleum and natural gas, total.....	.....	(X)	76.2	(X)	60.9
1311103	Crude petroleum, including lease condensate.....	Million barrels.	5.1	17.5	3.7	12.7
13112--	Natural gas.....	billion cubic feet ¹	175.8	58.8	185.6	48.2
	EAST SOUTH CENTRAL					
1311---	Crude petroleum and natural gas, total.....	.....	(X)	236.1	(X)	285.4
1311103	Crude petroleum, including lease condensate.....	Million barrels.	69.1	191.3	87.3	240.0
13112--	Natural gas, total.....	billion cubic feet ¹	197.6	44.8	236.0	45.4
1311212	To distributors and transmission companies and net to natural gas liquids plants.....	...do.....	187.8	41.7	225.6	43.4
1311222	To consumers (domestic, commercial, and industrial, including own refineries).....	...do.....	9.7	3.1	10.4	2.0

See footnotes at end of table.

**Table 3. Quantity and Value of Shipments by All Producers,
by Geographic Areas: 1967 and 1963—Continued**

(Includes quantity and value of products reported not only by establishments classified in this industry, but also by establishments classified in other industries, and shipping these products as "secondary" products. See appendix under "Individual Products")

Product code	Product and geographic area	Unit of measure	Shipments including interplant transfers			
			1967		1963	
			Quantity	Value (million dollars)	Quantity	Value (million dollars)
	MISSISSIPPI					
1311---	Crude petroleum and natural gas, total.....		(X)	162.1	(X)	² 193.7
1311103	Crude petroleum, including lease condensate.....	Million barrels.	50.3	136.3	59.7	² 162.8
13112--	Natural gas.....	billion cubic feet ¹	133.2	25.8	167.9	30.9
	WEST SOUTH CENTRAL					
1311---	Crude petroleum and natural gas, total.....		(X)	8,404.9	(X)	6,581.8
1311103	Crude petroleum, including lease condensate.....	Million barrels.	2,035.7	6,183.0	1,682.1	4,979.8
13112--	Natural gas, total.....	billion cubic feet ¹	13,609.3	2,221.9	10,713.1	1,602.0
1311212	To distributors and transmission companies and net to natural gas liquids plants.....	...do.....	12,771.1	2,083.1	10,104.1	1,509.4
1311222	To consumers (domestic, commercial, and industrial, including own refineries).....	...do.....	838.3	138.8	609.1	92.6
	ARKANSAS					
1311---	Crude petroleum and natural gas, total.....		(X)	69.2	(X)	67.6
1311103	Crude petroleum, including lease condensate.....	Million barrels.	15.2	44.6	20.7	53.9
13112--	Natural gas.....	billion cubic feet ¹	129.7	24.6	65.0	13.6
	LOUISIANA					
1311---	Crude petroleum and natural gas, total.....		(X)	3,301.2	(X)	2,238.9
1311103	Crude petroleum, including lease condensate.....	Million barrels.	737.3	2,283.4	503.5	1,546.7
13112--	Natural gas, total.....	billion cubic feet ¹	5,230.8	1,017.8	3,675.4	692.1
1311212	To distributors and transmission companies and net to natural gas liquids plants.....	...do.....	5,152.0	1,002.4	3,542.4	668.4
1311222	To consumers (domestic, commercial, and industrial, including own refineries).....	...do.....	78.8	15.4	133.1	23.7
	OKLAHOMA					
1311---	Crude petroleum and natural gas, total.....		(X)	848.4	(X)	707.2
1311103	Crude petroleum, including lease condensate.....	Million barrels.	208.7	630.4	199.6	559.9
13112--	Natural gas.....	billion cubic feet ¹	1,483.4	218.0	1,112.1	147.2
	TEXAS					
1311---	Crude petroleum and natural gas, total.....		(X)	4,186.1	(X)	3,656.2
1311103	Crude petroleum, including lease condensate.....	Million barrels.	1,074.5	3,224.6	958.4	² 2,819.2
13112--	Natural gas, total.....	billion cubic feet ¹	6,765.5	961.5	5,860.9	749.0
1311212	To distributors and transmission companies and net to natural gas liquids plants.....	...do.....	6,070.0	852.3	5,429.2	690.1
1311222	To consumers (domestic, commercial, and industrial, including own refineries).....	...do.....	695.5	109.2	431.7	58.8
	MOUNTAIN					
1311---	Crude petroleum and natural gas, total.....		(X)	1,135.7	(X)	1,059.3
1311103	Crude petroleum, including lease condensate.....	Million dollars.	351.0	958.1	344.2	918.9
13112--	Natural gas, total.....	billion cubic feet ¹	1,354.0	177.5	1,132.5	140.4
1311212	To distributors and transmission companies and net to natural gas liquids plants.....	...do.....	1,330.0	175.2	1,102.6	137.5
1311222	To consumers (domestic, commercial, and industrial, including own refineries).....	...do.....	23.9	2.3	29.9	2.9

See footnotes at end of table.

**TABLE 3. Quantity and Value of Shipments by All Producers,
by Geographic Areas: 1967 and 1963—Continued**

(Includes quantity and value of products reported not only by establishments classified in this industry, but also by establishments classified in other industries, and shipping these products as "secondary" products. See appendix under "Individual Products")

Product code	Product and geographic area	Unit of measure	Shipments including interplant transfers			
			1967		1963	
			Quantity	Value (million dollars)	Quantity	Value (million dollars)
	MONTANA					
1311---	Crude petroleum and natural gas, total.....	.....	(X)	82.8	(X)	74.0
1311103	Crude petroleum, including lease condensate.....	Million dollars.	31.8	80.8	29.4	72.2
13112--	Natural gas.....	billion cubic feet ¹	24.6	2.0	21.5	1.8
	WYOMING					
1311---	Crude petroleum and natural gas, total.....	.....	(X)	399.0	(X)	364.0
1311103	Crude petroleum, including lease condensate.....	Million barrels.	140.6	367.1	133.5	334.9
13112--	Natural gas.....	billion cubic feet ¹	217.6	31.9	200.6	29.1
	COLORADO					
1311---	Crude petroleum and natural gas, total.....	.....	(X)	105.3	(X)	119.7
1311103	Crude petroleum, including lease condensate.....	Million barrels.	31.9	93.1	38.2	109.3
13112--	Natural gas.....	billion cubic feet ¹	96.8	12.2	84.5	10.3
	NEW MEXICO					
1311---	Crude petroleum and natural gas, total.....	.....	(X)	470.2	(X)	401.6
1311103	Crude petroleum, including lease condensate.....	Million barrels.	119.8	345.9	109.8	313.5
13112--	Natural gas.....	billion cubic feet ¹	970.9	124.2	754.6	88.1
	PACIFIC					
1311---	Crude petroleum and natural gas, total.....	.....	(X)	1,093.8	(X)	985.2
1311103	Crude petroleum, including lease condensate.....	Million barrels.	379.6	893.4	319.6	795.9
13112--	Natural gas total.....	billion cubic feet ¹	612.1	200.4	576.3	189.3
1311212	To distributors and transmission companies and net to natural gas liquids plants.....	...do.....	501.1	171.8	505.1	165.7
1311222	To consumers (domestic, commercial, and industrial, including own refineries).....	...do.....	111.0	28.6	71.2	23.7

Note: Detailed figures may not add to totals because of independent rounding or independent dropping of fractions of thousands (rather than rounding) in computer operations. See Appendix, Explanation of Terms, for discussion of items.

Standard notes: -Represents zero. ¹Revised. (X) Not applicable. (NA) Not available. (D) Withheld to avoid disclosing figures for individual companies.

¹Represents volumes adjusted to a pressure base of 14.73 pounds absolute at 60°F.

²Excludes the value of the small quantity of crude petroleum produced and used in lease operations at the same establishment, amounting to less than 0.1 percent of the total quantity shown.

Table 4. Selected Supplies, Minerals Received for Preparation, and Purchased Machinery Installed: 1967 and 1963

(See appendix, "Explanation of Terms")

Code	Supplies	Unit of measure	1967		1963	
			Quantity	Cost (million dollars)	Quantity	Cost (million dollars)
	INDUSTRY 1311.--CRUDE PETROLEUM AND NATURAL GAS					
	Selected supplies, minerals received for preparation, and purchased machinery installed, total.....		(X)	1,612.4	(X)	1,457.6
131305	Gas purchased for gas lift and repressuring.....	Million cubic ft.	88,792.0	16.9	58,771.0	9.5
353011	Purchased machinery installed.....		(X)	485.2	(X)	421.3
	Supplies used:					
331201	Steel mill shapes and forms.....	1,000 short tons.	1,822.0	479.3	1,431.4	362.0
970099	All other supplies.....		(X)	566.6	}	(X) 664.7
976000	Selected supplies, minerals received for preparation, and purchased machinery installed, n.s.k. ¹		(X)	64.4		
	Crude petroleum subindustry					
	Selected supplies, minerals received for preparation, and purchased machinery installed, total.....		(X)	1,324.2	(X)	1,274.3
131305	Gas purchased for gas lift and repressuring.....	Million cubic ft.	60,204.0	11.6	54,048.0	8.9
353011	Purchased machinery installed.....		(X)	397.1	(X)	371.3
	Supplies used:					
331201	Steel mill shapes and forms.....	1,000 short tons.	1,508.1	391.0	1,262.3	318.8
970099	All other supplies.....		(X)	472.6	}	(X) 575.3
976000	Selected supplies, minerals received for preparation, and purchased machinery installed, n.s.k. ¹		(X)	51.9		
	Natural gas subindustry					
	Selected supplies, minerals received for preparation, and purchased machinery installed, total.....		(X)	288.1	(X)	183.3
131305	Gas purchased for gas lift and repressuring.....	Million cubic ft.	28,588.0	5.3	4,723.0	0.6
353011	Purchased machinery installed.....		(X)	88.1	(X)	50.0
	Supplies used:					
331201	Steel mill shapes and forms.....	1,000 short tons.	313.9	88.3	169.1	43.2
970099	All other supplies.....		(X)	94.0	}	(X) 89.5
976000	Selected supplies, minerals received for preparation, and purchased machinery installed, n.s.k. ¹		(X)	12.4		

Note: Detail may not add to the total because of independent rounding. (X) Not applicable. n.s.k. Not specified by kind.

¹This item represents the total cost of supplies for establishments that did not report detailed supplies. For 1967, this also includes estimates for establishments that were not mailed report forms.

SCOPE AND COVERAGE

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In the 1967 Census of Mineral Industries, data for all single-unit establishments without paid employees were excluded because of the difficulty in

developing a mailing list for these establishments. The exclusion of these establishments has had only a slight effect on industry aggregates for most industries. Data for establishments without employees were included in the 1963, 1958, and 1954 censuses if these establishments reported more than \$500 in one of the following data items: (1) value of shipments and receipts, (2) cost of supplies and purchased machinery, or (3) capital expenditures. In the 1963 census, establishments without paid employees for mining as a whole accounted for approximately 3 percent of value added, while they accounted for less than 3 percent of value added for industry 1311.

As in earlier censuses, a number of small establishments may have been misclassified as to industry. However, such possible misclassifications have no significant effect on the statistics other than the number of establishments. As indicated above, report forms were not mailed to very small establishments (less than 5 employees). The industry classifications for these establishments were assigned on the basis of brief descriptions of the general activity of the establishment. Where the description is incomplete or there are relatively fine lines of demarcation between industries or between mining and nonmining activity, the code assigned to an establishment could differ from that which would have been assigned on the basis of more complete product information. Therefore, the total establishment count should be reviewed as an approximation rather than a precise measurement. The counts of establishments with 20 or more employees are far more reliable than the total number of establishments.

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Appendix

EXPLANATION OF TERMS

(For a more complete discussion of these terms and the method of compiling the Census of Mineral Industries, see the Introduction to the 1963 Census of Mineral Industries, Volume I.)

All Employees--All full-time and part-time employees on the payrolls of operating mineral establishments for any part of the pay period ended nearest the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of the corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The number of production workers is the average of those for mid-month payroll periods of March, May, August, and November. The "all employee" number is the average number of production workers plus the number of other employees in mid-March.

Payroll--This item includes all forms of compensation such as salaries, wages, commissions, dismissal pay, all bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' Social Security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of these establishments, if a corporation; it excludes payments to the proprietor or partners, if an unincorporated concern. Respondents were told that in reporting they could follow the definition of payroll used for calculating the Federal withholding tax.

Production, Development, and Exploration Worker Man-Hours--The total man-hours figures represent all man-hours that production, development, and exploration workers worked both on active days during which there was production or development work, and inactive days, when only watchmen, inspectors, repairmen, and other maintenance men were on duty. They include all man-hours worked or paid for at the mining operations, except hours paid for vacations, holidays, or sick leave, when the employee was not at the establishment. Included are actual overtime hours, not straight-time equivalent hours. Man-hours of working proprietors or partners are excluded.

Cost of Supplies, etc., and Purchased Machinery--The 1967 census report forms requested information on supplies and purchased machinery installed; fuels and electric energy used; and contract work done by others for each establishment. These items included charges to both the current and capital accounts. The figures reported were to include items used during 1967 whether purchased, withdrawn from inventories, or received from other establishments of the company. For selected supplies and fuels and for electric energy, both quantity and cost data were requested. The cost data refer to direct charges actually paid or payable (after discounts) for items used during the year. Freight charges and other direct charges incurred by the establishment in acquiring the items are included. Where the company's records did not show actual amounts used, they were asked to approximate use by adding purchases (or receipts) during the year to opening inventory and subtracting closing inventory.

Separate figures were obtained for (a) selected supplies, minerals received for preparation, and purchased machinery installed; (b) electric energy purchased; (c) purchased fuels used for heat, power, or the generation of electricity; (d) contract work done by others; and (e) products bought and resold in the same condition. Supplies and equipment used in mine development, plant expansion, and capitalized repairs, which are chargeable to fixed assets accounts, were included, as were supplies furnished without charge to contractors for use at the mining operation and supplies sold to employees for use at the establishment. No data on such costs as advertising, insurance, telephone, and research and consulting services of other establishments; or on overhead costs, such as depreciation charges, rent, interest, and royalties were included in this item.

Specific Supplies Used and Minerals Prepared--In addition to the total cost of supplies, etc., and purchased machinery which every establishment was required to report, information was also collected on the consumption of major supplies used in mining. These supplies inquiries were restricted to those supplies which were important parts of the cost of production, exploration, and development of a particular industry and for which cost information was available from the firms' records. Information regarding the specific supplies consumed is shown in table 4.

On report forms for almost all mineral industries, except the contract services industries, a uniform inquiry was included on minerals prepared at the reported establish-

ments. Figures were obtained on minerals prepared from three sources: (1) Crude minerals mined at the establishment (quantity); (2) crude minerals received from other establishments of the company or purchased from others (quantity and cost); and (3) crude minerals received for preparation on a custom or toll basis (quantity and estimated value).

Establishments consuming less than a specified amount (usually \$5,000) were not requested to report the cost of a supply separately. Also, the cost of supplies for small establishments for which administrative records were used were imputed as "not specified by kind." (See text for importance of administrative records in the industry.)

Capital Expenditures--In the 1967 census, mining companies were asked to report expenditures made during the year for development and exploration of mineral properties, for new construction, and for machinery purchased at their operations that was chargeable to fixed assets accounts of the mineral establishment and were of a type for which depreciation, depletion, or Office of Minerals Exploration accounts were ordinarily maintained. Capital expenditures during 1967 were to be determined as "additions completed during the year plus construction in progress at the end of the year minus construction in progress at the beginning of the year." Reported capital expenditures were to include work done on contract as well as by the mine forces. Expenditures for machinery and equipment were to include those made for replacement purposes, as well as those for additions to capacity. Excluded from such expenditures totals are costs of maintenance and repairs charged as current operating expense. Also excluded are expenditures for land and mineral rights.

Wherever applicable, separate figures were provided for expenditures for (a) development and exploration of mineral property, (b) preparation plant construction and other construction, (c) new machinery and equipment, and (d) used plant and used equipment acquired from others.

Value of Shipments--The amounts under value of shipments are the values, f.o.b., mine, well, or plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts such as receipts for contract work performed for others, installation and repair, sales of scrap, and sale of products bought and resold without further processing. Included are all items produced by

the establishments and sold, transferred to other plants of the same company, or shipped on consignment.

In the case of multiunit companies, the firm was requested to report the value of products transferred to other establishments of the same company at full economic or commercial value, i.e., include not only the direct costs of production but also a reasonable proportion of "all other costs" (including company overhead) and profit.

Individual Products--In the 1967 Census of Mineral Industries, information on output of about 225 individual mineral product items was collected.

In general, the 1967 and 1963 minerals censuses figures were confined to separate totals for each crude and each prepared mineral. Where significant, separate shipments figures were also obtained for crude minerals going to preparation plants and those going to consumers.

Figures were collected on both quantity and value of shipments. Shipments include commercial shipments and transfers of products to other operations of the same company. For products which are used to a significant extent within the same establishment for power or heat, and for minerals mined and prepared in the same establishment, total production or separate data on production for such uses were collected. Typically, production was also collected for products for which there are usually significant differences between total production and total shipments as a result of stock changes.

For service industries, the amount received or due for services performed during 1967 was collected as a measure of output. For mine operators who also perform services, the amount received for such services was added to the total value of products shipped to determine total value of shipments and receipts for each establishment.

Table 3 of the individual industry reports provides the national and regional total shipments from all industries for each of the products primary to the industries covered in the report.

Shipments and Production--Shipments figures include all products physically shipped from the establishment during 1967, including material withdrawn from stockpiles and products shipped on consignment, whether or not sold in 1967. Prepared material or concentrates include prep-

aration from ores mined at the same establishment, purchased, received from other operations of the same company, or received for milling on a custom or toll basis. For products transferred to other establishments of the same company or prepared on a custom basis, the company was requested to include, in addition to direct costs of production, a reasonable proportion of company overhead and profits.

For industry and industry group totals, some duplication is introduced by the inclusion of materials transferred from one establishment to another for mineral preparation. Wherever value of shipments is shown without further specification, it represents gross shipments.

For years prior to 1954, data on shipments were not collected. Instead, the report forms requested data on the quantity and value of

production. In general, the data for these years were edited to represent net production, excluding duplications due to mining and later preparing the same material in the same industry.

Value Added in Mining--Since the 1954 census, this measure has been computed by subtracting the cost of supplies, etc., and purchased machinery from the sum of value of shipments and receipts and capital expenditures. This statistic avoids the duplication in value of shipments which results from the use of products of some establishments as supplies, energy sources, or materials by others. Moreover, it provides a measure of value added not only in mineral production, but also in the development of mineral properties. For these reasons, it is considered to be the best value measure for comparing the relative economic importance of mining among industries and geographic areas.



1967 Census of MINERAL INDUSTRIES

INDUSTRY SERIES



U.S. DEPARTMENT OF COMMERCE / Bureau of the Census

preliminary report

MIC67(P)-13A-2

Crude petroleum and natural gas - 50, 100, and 200 largest companies

The Crude Petroleum and Natural Gas Industry includes establishments primarily engaged in operating oil and gas field properties. Such activities include exploration for crude petroleum and natural gas; drilling, completing, and equipping wells, operation of separators, emulsion breakers, desilting equipment; and all other activities incident to making oil and gas marketable up to the point of shipment from the producing property. This industry also includes the production of oil through mining and extraction of oil from oil shale and oil sands. Establishments primarily engaged in performing oil field services for operators on a contract, fee, or other basis are classified in Group 138, Oil and Gas Field Services.

This report includes figures for administrative offices, warehouses, storage facilities, and other auxiliary units which service mining establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions contained in the 1967 edition of the Standard Industrial Classification (SIC) Manual.

Statistics on employment, payroll, value of shipments and receipts, and capital expenditure for the 50 (48 in 1963), 100, 200 largest companies

and for all producing companies in the Crude Petroleum and Natural Gas Industry are presented in table 1, while data on number, footage, and cost of drilling and equipping oil wells, gas and gas condensate wells, dry holes and service wells for the 50 (48 in 1963), 100, and 200 largest producing companies are presented in table 2.

In 1967 the shipments and receipts for all producing companies in the Crude Petroleum and Natural Gas Industry were valued at \$11,737.0 million, an increase of 18.6 percent since 1963. During the same period the 50 (48 in 1963), 100, and 200 largest producing companies showed increases of 35.5, 32.8, and 30.8 percent, respectively.

The 1967 average employment for the 50 (48 in 1963), 100, and 200 largest producing companies decreased 1.9, 3.0, and 4.7 percent, respectively, since 1963, while the 1967 average employment for all producing companies decreased 12.7 percent since 1963 to 126.8 thousand.

Value added in mining for all producing companies amounted to \$10,956.4 million in 1967, an increase of 21.5 percent since 1963. Value added for the 50 (48 in 1963), 100, and 200 largest producing companies increased 38.3, 34.2, and 31.8 percent respectively, since 1963.

GROUP 14

TABLE 1. General Statistics for the 50, 100, and 200 Largest Companies in the Crude Petroleum and Natural Gas Industry in 1967; for the 48, 100, and 200 Largest in 1963; and for All Operating Companies in 1967 and 1963

(Companies were ranked by size on the basis of their total value of shipments and receipts in each Census)

Item	Unit of measure	1967				1963			
		All companies in industry	50 largest companies	100 largest companies	200 largest companies	All companies in industry	48 largest companies	100 largest companies	200 largest companies
Establishments ¹	Number.....	8,794	1,458	1,871	2,373	14,378	1,046	1,487	1,919
All employees:									
Number.....	1,000.....	126.8	87.0	94.1	100.2	145.2	88.7	97.0	105.1
Payroll.....	Million dollars	1,051.6	804.8	855.9	899.7	1,016.4	726.9	781.3	831.9
Production, development, and exploration workers:									
Number.....	1,000.....	66.8	38.6	43.0	47.1	83.4	42.2	48.1	53.5
Man-hours.....	Millions.....	131.4	80.6	89.7	98.4	166.3	86.1	98.4	109.1
Wages.....	Million dollars	443.6	300.9	327.6	353.6	494.9	303.0	339.2	369.9
Value added in mining.....	...do.....	10,956.4	9,362.2	9,832.4	10,179.9	9,016.4	6,771.5	7,326.2	7,724.8
Cost of supplies, purchased machinery installed, gas purchased for gas lift and repressuring, purchased fuel and electric energy, and contract work.....	...do.....	3,297.2	2,661.0	2,814.4	2,943.1	3,087.3	2,176.2	2,347.0	2,465.0
Value of shipments and receipts.....	...do.....	11,737.0	9,902.9	10,435.8	10,826.9	9,893.8	7,307.7	7,856.6	8,279.5
Capital expenditures.....	...do.....	2,516.6	2,120.3	2,211.0	2,296.2	2,209.9	1,640.0	1,816.6	1,910.3

¹Figures for 1967 are not entirely comparable with 1963. In 1963, companies were requested to file separate establishment reports for each state and for districts in Texas, Louisiana, and New Mexico. In 1967, in addition to the establishments reports requested for 1963, companies were also requested to file separately for offshore operations by state and for districts in California.

TABLE 2. Number, Footage, and Cost of Drilling and Equipping Oil, Gas, Dry, and Service Wells for the 50, 100, and 200 Largest Companies in the Crude Petroleum and Natural Gas Industry for 1967; and for the 48, 100, and 200 Largest Companies and for All Operating Companies in 1963

(Companies were ranked by size on the basis of their total value of shipments and receipts in each Census)

Item	Unit of measure	1967			1963				
		50 largest companies	100 largest companies	200 largest companies	All companies in industry	48 largest companies	100 largest companies	200 largest companies	200 largest as a percent of all companies
Number of wells drilled, total ¹	Number.....	9,928	11,262	12,881	39,886	12,519	14,758	16,685	41.8
Oil wells ²	do.....	5,659	6,201	6,973	19,016	7,234	8,273	9,073	47.7
Gas and gas condensate wells ²	do.....	1,411	1,656	1,868	4,388	1,517	1,988	2,290	52.2
Dry holes ³	do.....	2,289	2,720	3,276	13,902	2,842	3,397	4,072	29.3
Service wells ⁴	do.....	569	685	764	2,580	926	1,100	1,250	48.4
Footage drilled, total.....	1,000 feet.....	59,687	66,838	75,218	171,943	74,219	84,750	94,523	55.0
Oil wells ²	do.....	28,010	30,617	34,288	77,782	39,804	43,708	47,476	61.0
Gas and gas condensate wells ²	do.....	11,532	13,022	14,230	24,394	11,612	14,099	15,959	65.4
Dry holes ³	do.....	18,349	21,196	24,467	65,073	20,662	24,479	28,339	43.5
Service wells ⁴	do.....	1,796	2,003	2,233	4,694	2,141	2,464	2,749	58.6
Average footage drilled per well, all wells.....	Feet.....	6,012	5,935	5,839	4,311	5,929	5,743	5,665	(X)
Oil wells ²	do.....	4,950	4,937	4,917	4,090	5,502	5,283	5,233	(X)
Gas and gas condensate wells ²	do.....	8,173	7,864	7,618	5,559	7,655	7,092	6,969	(X)
Dry holes ³	do.....	8,016	7,793	7,469	4,681	7,270	7,206	6,959	(X)
Service wells ⁴	do.....	3,156	2,924	2,923	1,819	2,312	2,240	2,199	(X)
Cost of drilling and equipping wells, total ⁵	Million dollars	1,614.6	1,706.2	1,794.1	2,050.8	1,321.2	1,458.4	1,550.6	75.6
Per well.....	\$1,000.....	162.6	151.5	139.3	51.4	105.5	98.8	92.9	(X)
Per foot.....	Dollars.....	27.05	25.53	23.85	11.93	17.80	17.21	16.40	(X)
Oil wells ²	Million dollars	739.1	770.5	815.8	1,028.3	695.2	749.0	786.1	76.4
Per well.....	\$1,000.....	130.6	124.3	117.0	54.1	96.1	90.5	86.6	(X)
Per foot.....	Dollars.....	26.39	25.17	23.79	13.22	17.47	17.14	16.56	(X)
Gas and gas condensate wells ²	Million dollars	377.6	406.6	422.8	408.2	267.5	305.7	332.4	81.4
Per well.....	\$1,000.....	267.6	245.5	226.3	93.0	176.3	153.8	145.2	(X)
Per foot.....	Dollars.....	32.74	31.22	29.71	16.73	23.04	21.68	20.84	(X)
Dry holes ³	Million dollars	466.1	495.7	520.7	580.2	336.7	379.7	406.3	70.0
Per well.....	\$1,000.....	203.6	182.2	158.9	41.7	118.5	111.8	99.8	(X)
Per foot.....	Dollars.....	25.40	23.39	21.28	8.92	16.30	15.51	14.34	(X)
Service wells ⁴	Million dollars	31.8	33.5	34.8	34.1	21.8	24.1	25.8	75.7
Per well.....	\$1,000.....	55.9	48.9	45.5	13.2	23.5	21.9	20.6	(X)
Per foot.....	Dollars.....	17.71	16.72	15.58	7.26	10.18	9.78	9.39	(X)

Note: Detail may not add to totals due to independent rounding.

(X) Not applicable.

¹Represents wells drilled which were completed during year, wells completed during year although begun in the previous year, and wells drilled and abandoned before completion during the year.

²In 1967, respondents operating wells which produced both oil and gas were requested to classify them as oil wells if oil could be produced from at least one of the zones, even though gas or gas condensate could be produced from other zones. In 1963, respondents operating wells were requested to classify them according to the largest value of either oil or gas produced and to classify condensate wells primarily valued for their liquids as oil wells.

³Includes wells drilled and abandoned without commercial production during 1967 even if they were converted to service wells.

⁴Includes gas-injection, water-injection, and brine-disposal wells. Excludes dry holes even if converted to service wells during 1967.

⁵Represents cost of labor, supplies, water, fuel, and power used in operations such as erecting and dismantling drilling rig and derrick, drilling hole, running and cementing casing, and hauling materials. Respondents were instructed to include machinery and tool charges and rentals, but not the value of materials salvaged after use, and to exclude costs such as taxes, interest on investment, and overhead cost.

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All Employees--All full-time and part-time employees on the payrolls of operating mineral establishments for any part of the pay period ended nearest the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of the corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The number of production workers is the average of those for mid-month payroll periods of March, May, August, and November. The "all employee" number is the average number of production workers plus the number of other employees in mid-March.

Payroll--This item includes all forms of compensation such as salaries, wages, commissions, dismissal pay, all bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' Social Security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of these establishments, if a corporation; it excludes payments to the proprietor or partners, if an unincorporated concern. Respondents were told that in reporting they could follow the definition of payroll used for calculating the Federal withholding tax.

Production, Development, and Exploration Worker Man-Hours--The total man-hours figures represent all man-hours that production, development, and exploration workers worked both on active days during which there was production or development work, and inactive days, when only watchmen, inspectors, repairmen, and other maintenance men were on duty. They include all man-hours worked or paid for at the mining operations, except hours paid for vacations, holidays, or sick leave, when the employee was not at the establishment. Included are actual overtime hours, not straight-time equivalent hours. Man-hours of working proprietors or partners are excluded.

Cost of Supplies, etc., and Purchased Machinery--The 1967 census report forms requested information on supplies and purchased machinery installed; fuels and electric energy used; and contract work done by others for each establishment. These items included charges to both the current and capital accounts. The figures reported were to include items used during 1967 whether purchased, withdrawn from inventories, or received from other establishments of the company. For selected supplies and fuels and for electric energy, both quantity and cost data were requested. The cost data refer to direct charges actually paid or payable (after discounts) for items used during the year. Freight charges and other direct charges incurred by the establishment in acquiring the items are included. Where the company's records did not show actual amounts used, they were asked to approximate use by adding purchases (or receipts) during the year to opening inventory and subtracting closing inventory.

Separate figures were obtained for (a) selected supplies, minerals received for preparation, and purchased machinery installed; (b) electric energy purchased; (c) purchased fuels used for heat, power, or the generation of electricity; (d) contract work done by others; and (e) products bought and resold in the same condition. Supplies and equipment used in mine development, plant expansion, and capitalized repairs, which are chargeable to fixed assets accounts, were included, as were supplies furnished without charge to contractors for use at the mining operation and supplies sold to employees for use at the establishment. No data on such costs as advertising, insurance, telephone, and research and consulting services of other establishments; or on overhead costs, such as depreciation charges, rent, interest, and royalties were included in this item.

Specific Supplies Used and Minerals Prepared--In addition to the total cost of supplies, etc., and purchased machinery which every establishment was required to report, information was also collected on the consumption of major supplies used in mining. These supplies inquiries were restricted to those supplies which were important parts of the cost of production, exploration, and development of a particular industry and for which cost information was available from the firms' records.

On report forms for almost all mineral industries, except the contract services industries, a uniform inquiry was included on minerals prepared at the reported establish-

ments. Figures were obtained on minerals prepared from three sources: (1) Crude minerals mined at the establishment (quantity); (2) crude minerals received from other establishments of the company or purchased from others (quantity and cost); and (3) crude minerals received for preparation on a custom or toll basis (quantity and estimated value).

Establishments consuming less than a specified amount (usually \$5,000) were not requested to report the cost of a supply separately. Also, the cost of supplies for small establishments for which administrative records were used were imputed as "not specified by kind." (See text for importance of administrative records in the industry.)

Capital Expenditures--In the 1967 census, mining companies were asked to report expenditures made during the year for development and exploration of mineral properties, for new construction, and for machinery purchased at their operations that was chargeable to fixed assets accounts of the mineral establishment and were of a type for which depreciation, depletion, or Office of Minerals Exploration accounts were ordinarily maintained. Capital expenditures during 1967 were to be determined as "additions completed during the year plus construction in progress at the end of the year minus construction in progress at the beginning of the year." Reported capital expenditures were to include work done on contract as well as by the mine forces. Expenditures for machinery and equipment were to include those made for replacement purposes, as well as those for additions to capacity. Excluded from such expenditures totals are costs of maintenance and repairs charged as current operating expense. Also excluded are expenditures for land and mineral rights.

Wherever applicable, separate figures were provided for expenditures for (a) development and exploration of mineral property, (b) preparation plant construction and other construction, (c) new machinery and equipment, and (d) used plant and used equipment acquired from others.

Value of Shipments--The amounts under value of shipments are the values, f.o.b., mine, well, or plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts such as receipts for contract work performed for others, installation and repair, sales of scrap, and sale of products bought and resold without further processing. Included are all items produced by

the establishments and sold, transferred to other plants of the same company, or shipped on consignment.

In the case of multiunit companies, the firm was requested to report the value of products transferred to other establishments of the same company at full economic or commercial value, i.e., include not only the direct costs of production but also a reasonable proportion of "all other costs" (including company overhead) and profit.

Individual Products--In the 1967 Census of Mineral Industries, information on output of about 225 individual mineral product items was collected.

In general, the 1967 and 1963 minerals censuses figures were confined to separate totals for each crude and each prepared mineral. Where significant, separate shipments figures were also obtained for crude minerals going to preparation plants and those going to consumers.

Figures were collected on both quantity and value of shipments. Shipments include commercial shipments and transfers of products to other operations of the same company. For products which are used to a significant extent within the same establishment for power or heat, and for minerals mined and prepared in the same establishment, total production or separate data on production for such uses were collected. Typically, production was also collected for products for which there are usually significant differences between total production and total shipments as a result of stock changes.

For service industries, the amount received or due for services performed during 1967 was collected as a measure of output. For mine operators who also perform services, the amount received for such services was added to the total value of products shipped to determine total value of shipments and receipts for each establishment.

Shipments and Production--Shipments figures include all products physically shipped from the establishment during 1967, including material withdrawn from stockpiles and products shipped on consignment, whether or not sold in 1967. Prepared material or concentrates include prep-

aration from ores mined at the same establishment, purchased, received from other operations of the same company, or received for milling on a custom or toll basis. For products transferred to other establishments of the same company or prepared on a custom basis, the company was requested to include, in addition to direct costs of production, a reasonable proportion of company overhead and profits.

For industry and industry group totals, some duplication is introduced by the inclusion of materials transferred from one establishment to another for mineral preparation. Wherever value of shipments is shown without further specification, it represents gross shipments.

For years prior to 1954, data on shipments were not collected. Instead, the report forms requested data on the quantity and value of

production. In general, the data for these years were edited to represent net production, excluding duplications due to mining and later preparing the same material in the same industry.

Value Added in Mining--Since the 1954 census, this measure has been computed by subtracting the cost of supplies, etc., and purchased machinery from the sum of value of shipments and receipts and capital expenditures. This statistic avoids the duplication in value of shipments which results from the use of products of some establishments as supplies, energy sources, or materials by others. Moreover, it provides a measure of value added not only in mineral production, but also in the development of mineral properties. For these reasons, it is considered to be the best value measure for comparing the relative economic importance of mining among industries and geographic areas.

U.S. DEPARTMENT OF COMMERCE
Bureau of the Census
Washington, D.C. 20233

POSTAGE AND FEES PAID
U.S. DEPARTMENT OF COMMERCE

OFFICIAL BUSINESS



1967 Census of MINERAL INDUSTRIES

INDUSTRY SERIES



U.S. DEPARTMENT OF COMMERCE/Bureau of the Census

preliminary report

MIC67(P)-13B

Natural gas liquids

SIC Code 1321

The Natural Gas Liquids Industry includes establishments primarily engaged in producing liquid hydrocarbons from oil and gas field gases. Establishments recovering liquefied petroleum gases incident to petroleum refining or to the manufacturing of chemicals are classified in Major Groups 28 or 29. This report does not include the recovery of natural gas liquids as a secondary activity in dehydration, pressure maintenance, and boosting plants.

This report includes figures for administrative offices, warehouses, storage facilities, and other auxiliary units which service mining establishments. The classification of establishments for which data are tabulated in this report is based

upon the definitions contained in the 1967 edition of the Standard Industrial Classification (SIC) Manual.

In 1967, the value of products shipped and miscellaneous receipts of establishments classified in the Natural Gas Liquids Industry amounted to \$3,654.3 million, an increase of 30.5 percent compared with 1963. Value added in mining amounted to \$885.9 million in 1967, an increase of 16.2 percent from 1963. Average employment in the industry showed a decrease of 10.1 percent from 1963 to a total of 12.5 thousand employees in 1967.

For an explanation of the terms used in the tables, see appendix at the end of this report.

TABLE 1. General Statistics: 1967 and Earlier Years

(See appendix, "Explanation of Terms")

(see appendix, "Explanation of Terms")

Year	Establishments		All employees		Production, development, and exploration workers			Value added in mining (million dollars)	Cost of supplies, etc., and purchased machinery installed (million dollars)	Value of shipments and receipts (million dollars)	Capital expenditures (million dollars)
	Total	With 20 employees or more	Number	Payroll	Number	Man-hours	Wages				
	(number)	(number)	(1,000)	(million dollars)	(1,000)	(millions)	(million dollars)				
	INDUSTRY 1321.--NATURAL GAS LIQUIDS										
1967.....	694	217	12.5	100.0	10.5	21.1	82.5	885.9	2,983.0	3,654.3	214.6
1963.....	652	245	13.9	96.6	11.9	24.5	80.7	762.1	2,152.6	2,800.8	113.9
1958.....	593	290	16.5	96.3	13.4	26.9	75.7	587.6	1,132.4	1,625.1	94.9
1954.....	562	287	17.3	85.1	13.6	27.9	64.0	(NA)	209.1	¹ 582.9	110.0
1939.....	² 736	(NA)	10.3	18.3	8.3	16.6	13.2	(NA)	19.6	¹ 96.3	(NA)

(NA) Not available.

¹Represents value of net shipments and receipts.

²Represents number of plants.

TABLE 2. General Statistics, by Geographic Areas: 1967 and 1963

(See appendix, "Explanation of Terms")

Geographic area	1967											1963	
	Establishments		All employees		Production, development, and exploration workers			Value added in mining (million dollars)	Cost of supplies, etc., and purchased machinery installed (million dollars)	Value of shipments and receipts (million dollars)	Capital expenditures (million dollars)	All employees (1,000)	Value added in mining (million dollars)
	Total	With 20 employ- ees or more	Number	Payroll	Number	Man-hours	Wages						
	(number)	(number)	(1,000)	(million dollars)	(1,000)	(millions)	(million dollars)						
INDUSTRY 1321.--NATURAL GAS LIQUIDS													
United States.....	694	217	12.5	100.0	10.5	21.1	82.5	885.9	2,983.0	3,654.3	214.6	13.9	762.1
South.....	530	173	9.9	78.9	8.2	16.5	63.6	739.7	2,382.4	2,940.6	181.5	10.7	615.1
West South Central.....	505	165	9.5	76.2	7.8	15.8	61.3	706.3	2,220.5	2,748.1	178.6	10.2	587.9
Louisiana.....	97	25	1.4	11.5	1.2	2.5	9.5	146.3	946.9	1,031.1	62.1	1.5	154.9
Texas.....	318	113	6.4	51.6	5.5	11.1	43.2	476.1	1,121.5	1,494.2	103.3	6.9	360.8
West.....	124	37	2.1	17.3	1.9	3.8	15.7	94.5	406.3	475.7	25.2	2.5	111.1
Mountain.....	71	24	1.3	10.5	1.2	2.3	9.6	55.3	248.3	283.8	19.8	1.2	47.2
Wyoming.....	18	3	0.3	2.0	0.2	0.5	1.9	8.8	40.0	48.1	0.8	0.2	8.6
Colorado.....	11	3	0.1	0.9	0.1	0.2	0.8	3.2	15.5	18.4	0.3	0.1	4.8
New Mexico.....	34	18	0.9	7.1	0.8	1.6	6.4	40.1	182.3	204.9	17.6	0.8	31.3
Pacific.....	53	13	0.8	6.8	0.7	1.5	6.1	39.3	158.1	191.9	5.4	1.3	63.9

Note: Detail may not add to the total because of independent rounding.

**Table 3. Production and Quantity and Value of Shipments by All Producers,
by Geographic Areas: 1967 and 1963**

(Includes production and quantity and value of products reported not only by establishments classified in this industry, but also by establishments classified in other industries, and shipping these products as "secondary" products. See appendix under "Individual Products")

Product code	Product and geographic area	Unit of measure	1967			1963		
			Production	Shipments, including interplant transfers		Production	Shipments, including interplant transfers	
				Quantity	Value (million dollars)		Quantity	Value (million dollars)
	UNITED STATES							
1321- --	Natural gas liquids and residue gas, total.....	.....	(X)	(X)	3,685.2	(X)	(X)	2,791.2
13212 01	Natural gas liquids ¹	Million bbl....	582.0	581.0	1,298.9	458.8	458.2	913.5
13213 01	Residue gas shipped ²	Billion cu.ft..	(X)	14,064.8	2,386.2	(X)	11,468.4	1,877.7
	WEST SOUTH CENTRAL							
1321- --	Natural gas liquids and residue gas, total.....	.....	(X)	(X)	2,748.0	(X)	(X)	1,936.8
13212 01	Natural gas liquids ¹	Million bbl....	447.4	446.3	995.0	338.9	339.7	674.1
13213 01	Residue gas shipped ²	Billion cu.ft..	(X)	10,920.4	1,753.0	(X)	8,425.1	1,262.6
	LOUISIANA							
1321- --	Natural gas liquids and residue gas, total.....	.....	(X)	(X)	1,045.3	(X)	(X)	636.3
13212 01	Natural gas liquids ¹	Million bbl....	98.3	97.4	246.8	62.4	62.1	140.5
13213 01	Residue gas shipped ²	Billion cu.ft..	(X)	4,110.5	798.5	(X)	2,604.0	495.8
	TEXAS							
1321- --	Natural gas liquids and residue gas, total.....	.....	(X)	(X)	1,476.3	(X)	(X)	1,107.9
13212 01	Natural gas liquids ¹	Million bbl....	307.2	306.7	650.5	236.7	237.8	460.2
13213 01	Residue gas shipped ²	Billion cu.ft..	(X)	5,815.3	825.8	(X)	4,949.1	647.7
	WEST							
1321- --	Natural gas liquids and residue gas, total.....	.....	(X)	(X)	473.1	(X)	(X)	395.7
13212 01	Natural gas liquids ^{1 3}	Million bbl....	75.3	74.8	171.2	61.4	61.5	131.2
13213 01	Residue gas shipped ²	Billion cu.ft..	(X)	1,657.8	301.9	(X)	1,383.2	264.5
	MOUNTAIN							
1321- --	Natural gas liquids and residue gas, total.....	.....	(X)	(X)	282.1	(X)	(X)	179.7
13212 01	Natural gas liquids ^{1 3}	Million bbl....	52.6	52.0	107.7	35.1	35.2	61.1
13213 01	Residue gas shipped ²	Billion cu.ft..	(X)	1,225.3	174.4	(X)	921.6	118.7
	WYOMING							
1321- --	Natural gas liquids and residue gas, total.....	.....	(X)	(X)	47.0	(X)	(X)	(D)
13212 01	Natural gas liquids ¹	Million bbl....	6.3	6.3	13.9	5.6	5.6	(D)
13213 01	Residue gas shipped ²	Million cu.ft..	(X)	226.0	33.2	(X)	140.4	20.0
	COLORADO							
1321- --	Natural gas liquids and residue gas, total.....	.....	(X)	(X)	18.4	(X)	(X)	(D)
13212 01	Natural gas liquids ^{1 3}	Million bbl....	3.1	3.0	7.0	3.5	3.5	(D)
13213 01	Residue gas shipped ²	Billion cu.ft..	(X)	83.0	11.4	(X)	72.7	10.0
	NEW MEXICO							
1321- --	Natural gas liquids and residue gas, total.....	.....	(X)	(X)	204.2	(X)	(X)	(D)
13212 01	Natural gas liquids ^{1 3}	Million bbl....	40.5	40.0	81.2	23.1	23.2	(D)
13213 01	Residue gas shipped ²	Billion cu.ft..	(X)	865.6	123.1	(X)	660.1	82.4
	PACIFIC							
1321- --	Natural gas liquids and residue gas, total.....	.....	(X)	(X)	191.0	(X)	(X)	216.0
13212 01	Natural gas liquids ^{1 3}	Million bbl....	22.7	22.8	63.5	26.2	26.3	70.1
13213 01	Residue gas shipped ²	Billion cu.ft..	(X)	432.5	127.5	(X)	461.6	145.8

Note: Detail may not add to total due to independent rounding.

(X) Not applicable. (D) Withheld to avoid disclosing figures for individual companies.

¹Represents gross production of natural gasoline, plant condensate, and liquefied petroleum gases, including drip from lines, isopentane, and ethane. Also includes finished gasoline, kerosene, distillate, and residual oils produced at natural gas liquids plants.

²Represents all residue gas used by the reporting company at other company operations, gas returned to supplying producer, and gas delivered to other companies. All gas volumes are adjusted to a pressure base of 14.73 pounds absolute at 60° F.

³For 1963 represents gross natural gas liquids less natural gas liquids received from other natural gas liquids plants for further processing and less crude petroleum received for processing.

Table 4. Selected Supplies, Natural Gas Processed, Natural Gas Liquids for further Processing, and Purchased Machinery Installed: 1967 and 1963

(See appendix, "Explanation of Terms")

Code	Supplies	Unit of measure	1967		1963	
			Quantity	Cost (million dollars)	Quantity	Cost (million dollars)
	INDUSTRY 1321.--NATURAL GAS LIQUIDS					
	Selected supplies, natural gas processed, natural gas liquids for further processing, and purchased machinery installed, total.....	.....	(X)	2,896.2	(X)	2,083.4
	Natural gas processed:					
131301	Gas from oil wells (casing head) ¹	Billion cu.ft....	5,348.2	791.6	12,588.6	1,841.3
131303	Gas from gas and gas condensate wells ¹.....	...do.....	10,388.3	1,726.6		
	Liquids processed:					
132120	Natural gas liquids received for further processing.....	Million bbl.....	73.9	144.2	51.3	92.9
131203	Crude petroleum, including condensate, received for processing.	...do.....	10.6	30.2	8.6	21.8
353011	Purchased machinery installed.....	.....	(X)	104.1	(X)	39.1
	Supplies used:					
331201	Steel mill shapes and forms.....	1,000 short tons.	(X)	99.5	(X)	88.4
970099	All other supplies.....	.....			
976000	Selected supplies, natural gas processed, natural gas liquids for further processing, and purchased machinery installed, n.s.k. ².....	.....			

Note: Detail may not add to total due to independent rounding.

(X) Not applicable.

¹Volumes adjusted to a pressure base of 14.73 pounds absolute at 60° F.²This item represents the total cost of supplies for establishments that did not report detailed supplies data. For 1967 this also includes estimates for establishments that were not mailed report forms.

SCOPE AND COVERAGE

This report is one of a series presenting preliminary information on industries and products from the 1967 Census of Mineral Industries. The data will be superseded in a final report which in turn will be included in Volume 1, Summary and Industry Statistics, 1967 Census of Mineral Industries. That report will include a comprehensive discussion of the concepts and definitions used in the census.

The census of mineral industries covers each mining establishment of firms in the United States with one or more paid employees. Firms which operate more than one establishment were required to file a separate report for each location. Companies which engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation and the activities were of significant size.

For oil and gas field operation and contract services, reports were required for units somewhat different from the "establishment" reporting unit used for other types of mining. Every concern which operated oil and gas wells, drilled such wells for its own account or for others, performed exploration work for oil or gas, or performed oil and gas field services for others during any part of calendar year 1967 was required to submit a separate report for each State or for each district within Texas, Louisiana, New Mexico, and California (however, information on employment, oil and gas production, and capital expenditures was requested by county). Further, concerns which supplied contract services for others were required to submit a separate report for each State. (In this instance also, information on employment, receipts for services, and capital expenditures was requested by county.)

In the 1967 census, for the first time, approximately 10,000 single-unit establishments with 1 to 4 employees were excused from filing reports. Under special arrangements which safeguarded the confidentiality of both tax and census records, limited data on payrolls, sales, and industry classification from the administrative records of the Social Security Administration and the Internal Revenue Service were made available to the Census Bureau for use in the 1967 censuses of business, manufactures, and mineral industries. Estimates for data other than payrolls and sales for these small establishments were constructed from industry averages. The effect on industry aggregates is slight in most industries. For mining as a whole, they account for less than 1 percent of value added. In industry , these small establishments accounted for less than 1 percent of value added.

In the 1967 Census of Mineral Industries, data for all single-unit establishments without paid employees were excluded because of the difficulty in

developing a mailing list for these establishments. The exclusion of these establishments has had only a slight effect on industry aggregates for most industries. Data for establishments without employees were included in the 1963, 1958, and 1954 censuses if these establishments reported more than \$500 in one of the following data items: (1) value of shipments and receipts, (2) cost of supplies and purchased machinery, or (3) capital expenditures. In the 1963 census, establishments without paid employees for mining as a whole accounted for approximately 3 percent of value added, while they accounted for less than 1 percent of value added for industry 1321.

As in earlier censuses, a number of small establishments may have been misclassified as to industry. However, such possible misclassifications have no significant effect on the statistics other than the number of establishments. As indicated above, report forms were not mailed to very small establishments (less than 5 employees). The industry classifications for these establishments were assigned on the basis of brief descriptions of the general activity of the establishment. Where the description is incomplete or there are relatively fine lines of demarcation between industries or between mining and nonmining activity, the code assigned to an establishment could differ from that which would have been assigned on the basis of more complete product information. Therefore, the total establishment count should be reviewed as an approximation rather than a precise measurement. The counts of establishments with 20 or more employees are far more reliable than the total number of establishments.

More detailed figures for this industry will appear in the final census reports. Final reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each mineral industry and for each State are being issued. Final industry reports and final area reports will be published during the spring and fall of 1970. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C. 20233.

The 1967 Census of Mineral Industries is the 16th census of mineral establishments in the United States. For 1967, it was conducted jointly with the censuses of manufactures, retail trade, wholesale trade, and selected services under authority of Title 13 of the United States Code. Title 13 specified that a census of mineral industries be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7."

Appendix

EXPLANATION OF TERMS

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All Employees--All full-time and part-time employees on the payrolls of operating mineral establishments for any part of the pay period ended nearest the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of the corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The number of production workers is the average of those for mid-month payroll periods of March, May, August, and November. The "all employee" number is the average number of production workers plus the number of other employees in mid-March.

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Specific Supplies Used and Minerals Prepared--In addition to the total cost of supplies, etc., and purchased machinery which every establishment was required to report, information was also collected on the consumption of major supplies used in mining. These supplies inquiries were restricted to those supplies which were important parts of the cost of production, exploration, and development of a particular industry and for which cost information was available from the firms' records. Information regarding the specific supplies consumed is shown in table 4.

On report forms for almost all mineral industries, except the contract services industries, a uniform inquiry was included on minerals prepared at the reported establish-

ments. Figures were obtained on minerals prepared from three sources: (1) Crude minerals mined at the establishment (quantity); (2) crude minerals received from other establishments of the company or purchased from others (quantity and cost); and (3) crude minerals received for preparation on a custom or toll basis (quantity and estimated value).

Establishments consuming less than a specified amount (usually \$5,000) were not requested to report the cost of a supply separately. Also, the cost of supplies for small establishments for which administrative records were used were imputed as "not specified by kind." (See text for importance of administrative records in the industry.)

Capital Expenditures--In the 1967 census, mining companies were asked to report expenditures made during the year for development and exploration of mineral properties, for new construction, and for machinery purchased at their operations that was chargeable to fixed assets accounts of the mineral establishment and were of a type for which depreciation, depletion, or Office of Minerals Exploration accounts were ordinarily maintained. Capital expenditures during 1967 were to be determined as "additions completed during the year plus construction in progress at the end of the year minus construction in progress at the beginning of the year." Reported capital expenditures were to include work done on contract as well as by the mine forces. Expenditures for machinery and equipment were to include those made for replacement purposes, as well as those for additions to capacity. Excluded from such expenditures totals are costs of maintenance and repairs charged as current operating expense. Also excluded are expenditures for land and mineral rights.

Wherever applicable, separate figures were provided for expenditures for (a) development and exploration of mineral property, (b) preparation plant construction and other construction, (c) new machinery and equipment, and (d) used plant and used equipment acquired from others.

Value of Shipments--The amounts under value of shipments are the values, f.o.b., mine, well, or plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts such as receipts for contract work performed for others, installation and repair, sales of scrap, and sale of products bought and resold without further processing. Included are all items produced by

the establishments and sold, transferred to other plants of the same company, or shipped on consignment.

In the case of multiunit companies, the firm was requested to report the value of products transferred to other establishments of the same company at full economic or commercial value, i.e., include not only the direct costs of production but also a reasonable proportion of "all other costs" (including company overhead) and profit.

Individual Products--In the 1967 Census of Mineral Industries, information on output of about 225 individual mineral product items was collected.

In general, the 1967 and 1963 minerals censuses figures were confined to separate totals for each crude and each prepared mineral. Where significant, separate shipments figures were also obtained for crude minerals going to preparation plants and those going to consumers.

Figures were collected on both quantity and value of shipments. Shipments include commercial shipments and transfers of products to other operations of the same company. For products which are used to a significant extent within the same establishment for power or heat, and for minerals mined and prepared in the same establishment, total production or separate data on production for such uses were collected. Typically, production was also collected for products for which there are usually significant differences between total production and total shipments as a result of stock changes.

For service industries, the amount received or due for services performed during 1967 was collected as a measure of output. For mine operators who also perform services, the amount received for such services was added to the total value of products shipped to determine total value of shipments and receipts for each establishment.

Table 3 of the individual industry reports provides the national and regional total shipments from all industries for each of the products primary to the industries covered in the report.

Shipments and Production--Shipments figures include all products physically shipped from the establishment during 1967, including material withdrawn from stockpiles and products shipped on consignment, whether or not sold in 1967. Prepared material or concentrates include prep-

aration from ores mined at the same establishment, purchased, received from other operations of the same company, or received for milling on a custom or toll basis. For products transferred to other establishments of the same company or prepared on a custom basis, the company was requested to include, in addition to direct costs of production, a reasonable proportion of company overhead and profits.

For industry and industry group totals, some duplication is introduced by the inclusion of materials transferred from one establishment to another for mineral preparation. Wherever value of shipments is shown without further specification, it represents gross shipments.

For years prior to 1954, data on shipments were not collected. Instead, the report forms requested data on the quantity and value of

production. In general, the data for these years were edited to represent net production, excluding duplications due to mining and later preparing the same material in the same industry.

Value Added in Mining--Since the 1954 census, this measure has been computed by subtracting the cost of supplies, etc., and purchased machinery from the sum of value of shipments and receipts and capital expenditures. This statistic avoids the duplication in value of shipments which results from the use of products of some establishments as supplies, energy sources, or materials by others. Moreover, it provides a measure of value added not only in mineral production, but also in the development of mineral properties. For these reasons, it is considered to be the best value measure for comparing the relative economic importance of mining among industries and geographic areas.



1967 Census of MINERAL INDUSTRIES

INDUSTRY SERIES



U.S. DEPARTMENT OF COMMERCE / Bureau of the Census

preliminary report

MIC67(P)-13C-1

Drilling oil and gas wells

SIC Code 1381

The Drilling Oil and Gas Wells Industry includes establishments primarily engaged in drilling wells for oil or gas for others on a contract, fee, or other basis. This industry includes contractors that specialize in "spudding in," "drilling in," redrilling, and directional drilling.

This report includes figures for administrative offices, warehouses, storage facilities, and other auxiliary units which service mining establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions contained in the 1967 edition of the Standard Industrial Classification (SIC) Manual.

In 1967, the value of products shipped and miscellaneous receipts of establishments classified in the Drilling Oil and Gas Wells Industry amounted to \$889.9 million, a decrease of 9.1 percent compared with 1963. Value added in mining amounted to \$628.1 million in 1967, a decrease of 4.1 percent from 1963. Average employment in the industry showed a decrease of 23.5 percent from 1963 to a total of 42.4 thousand employees in 1967.

For an explanation of the terms used in the tables, see appendix at the end of this report.

TABLE 1. General Statistics: 1967 and Earlier Years

(See appendix, "Explanation of Terms")

(see appendix, "Explanation of Terms")

Year	Establishments		All employees		Production, development, and exploration workers			Value added in mining (million dollars)	Cost of supplies, etc., and purchased machinery installed (million dollars)	Value of shipments and receipts (million dollars)	Capital expenditures (million dollars)
	Total	With 20 employees or more	Number	Payroll	Number	Man-hours	Wages				
	(number)	(number)	(1,000)	(million dollars)	(1,000)	(millions)	(million dollars)				
	INDUSTRY 1381.--DRILLING OIL AND GAS WELLS										
1967.....	2,324	575	42.4	293.9	38.5	81.4	254.3	628.1	401.9	889.9	140.2
1963.....	2,836	746	55.4	318.2	50.3	106.3	281.1	653.3	474.0	979.3	148.0
1958 ¹	3,064	820	59.4	289.2	52.3	109.5	239.3	587.4	419.5	904.9	102.0
1954 ¹	2,869	878	68.0	304.3	62.1	133.2	264.8	624.0	502.2	972.7	153.5
1939.....	(NA)	(NA)	24.2	41.9	22.5	38.6	36.0	(NA)	(NA)	128.1	(NA)

(NA) Not available.

¹Excludes figures for Alaska. Two establishments were reported in 1958 and one establishment in 1954.

TABLE 2. General Statistics, by Geographic Areas: 1967 and 1963

(See appendix, "Explanation of Terms")

Geographic area	1967											1963	
	Establishments		All employees		Production, development, and exploration workers			Value added in mining	Cost of supplies, etc., and purchased machinery installed	Value of shipments and receipts	Capital expendi- tures	All employees	Value added in mining
	Total	With 20 employ- ees or more	Number	Payroll	Number	Man-hours	Wages						
	(number)	(number)	(1,000)	(million dollars)	(1,000)	(millions)	(million dollars)	(million dollars)	(million dollars)	(million dollars)	(million dollars)	(1,000)	(million dollars)
	INDUSTRY 1381.--DRILLING OIL AND GAS WELLS												
United States, total.	2,324	575	42.4	293.9	38.5	81.4	254.3	628.1	401.9	889.9	140.2	55.4	653.3
Middle Atlantic.....	114	7	0.6	3.7	0.5	1.2	3.3	9.0	6.9	14.5	1.5	0.7	6.8
East North Central.....	300	34	2.8	15.3	2.7	4.9	13.8	32.1	15.6	43.4	4.4	3.0	31.5
Ohio.....	135	8	1.1	6.2	1.1	2.0	5.8	12.9	7.5	18.5	1.8	0.8	9.7
Indiana.....	35	4	0.3	1.2	0.2	0.4	1.0	2.7	1.2	3.4	0.4	0.4	2.7
West North Central.....	164	20	1.7	10.6	1.6	3.2	9.5	22.3	13.6	32.8	3.0	2.8	33.4
Kansas.....	130	16	1.4	8.0	1.3	2.5	7.2	17.1	9.9	24.9	2.1	2.3	26.0
South Atlantic.....	110	12	0.8	4.3	0.7	1.4	3.7	8.3	4.2	10.9	1.6	1.1	10.8
East South Central.....	169	25	1.6	9.9	1.5	3.0	8.8	22.5	15.0	33.4	4.2	2.7	28.5
Mississippi.....	34	20	1.0	6.8	0.9	1.9	5.9	15.1	11.1	23.6	2.5		
West South Central.....	1,136	369	27.7	187.0	24.9	53.2	161.8	410.0	261.1	575.2	95.9	36.9	438.9
Louisiana.....	212	102	10.4	76.9	9.4	21.1	66.8	187.0	114.8	249.4	52.4	11.8	173.5
Texas.....	690	192	13.0	84.4	11.7	24.4	73.9	173.3	115.2	253.3	35.2	19.0	206.8
Mountain.....	214	61	3.8	26.6	3.4	7.2	23.7	53.0	42.0	85.7	9.3	5.2	64.6
Montana.....	35	9	0.6	4.1	0.6	1.2	3.9	8.4	9.4	15.6	2.2	0.7	9.6
Wyoming.....	52	14	1.1	7.8	1.0	2.2	6.9	13.9	13.0	24.3	2.6	1.3	16.0
Colorado.....	39	7	0.5	3.8	0.4	0.8	3.1	6.5	5.5	10.7	1.3	0.5	7.0
New Mexico.....	67	25	1.2	8.5	1.1	2.4	7.5	19.1	11.4	27.9	2.5	2.2	26.3
Pacific.....	117	47	3.5	36.5	3.2	7.2	29.7	70.9	43.5	94.1	20.3	3.0	38.8
California.....	98	36	3.0	25.7	2.5	5.2	19.8	46.2	25.4	60.9	10.7	2.9	35.0

Note: Detail may not add to totals due to independent rounding.

TABLE 3. Primary Services of the Industry, by Geographic Areas: 1967 and 1963

(Includes services reported not only by establishments classified in this industry, but also by establishments classified in other industries. See appendix, under "Individual Products")

Code	Type of service and geographic area	Footage	Receipts for services		Code	Type of service and geographic area	Footage	Receipts for services	
		(1,000 feet)	(million dollars)	(million dollars)			(1,000 feet)	(million dollars)	
		1967	1967	1963 ¹			1967	1967	1963 ¹
UNITED STATES					EAST SOUTH CENTRAL DIVISION				
1381- --	Drilling oil and gas wells, total.....	(X)	894.6	951.5	1381- --	Drilling oil and gas wells, total.....	(X)	34.9	43.6
13818 01	Drilling oil, gas, dry, and service wells.....	124,997	717.1	822.9	13818 01	Drilling oil, gas, dry, and service wells.....	6,238	26.9	37.2
13818 02	Drilling in, spudding in, and tailing in.....	(NA)	17.7	28.1	13818 02	Drilling in,spudding in, and tailing in.....	(NA)	(⁴)	0.7
13818 04	Reworking wells.....	(NA)	70.6	100.5	13818 04	Reworking wells.....	(NA)	2.8	5.7
13818 98	Drilling oil and gas wells, n.s.k...	(X)	² 89.2	(³)	13818 98	Drilling oil and gas wells, n.s.k...	(X)	² 45.1	(³)
MIDDLE ATLANTIC DIVISION					MISSISSIPPI				
1381- --	Drilling oil and gas wells, total.....	(X)	14.0	10.1	1381- --	Drilling oil and gas wells, total.....	(X)	25.0	30.4
13818 01	Drilling oil, gas, dry, and service wells.....	3,636	11.8	9.3	13818 01	Drilling oil, gas, dry, and service wells.....	4,904	21.1	25.3
13818 02	Drilling in, spudding in, and tailing in.....	(NA)	(⁴)	0.8	13818 02	Drilling in, spudding in, and tailing in.....	(NA)	(⁴)	5.1
13818 04	Reworking wells.....	(NA)	0.1		13818 04	Reworking wells.....	(NA)	2.4	
18318 98	Drilling oil and gas wells, n.s.k...	(X)	² 42.1	(³)	13818 98	Drilling oil and gas wells, n.s.k...	(X)	² 41.6	(³)
EAST NORTH CENTRAL DIVISION					WEST SOUTH CENTRAL DIVISION				
1381- --	Drilling oil and gas wells, total.....	(X)	41.4	41.2	1381- --	Drilling oil and gas wells, total.....	(X)	578.8	645.9
13818 01	Drilling oil, gas, dry, and service wells.....	7,492	29.6	34.3	13818 01	Drilling oil, gas, dry, and service wells.....	74,188	462.5	558.0
13818 02	Drilling in, spudding in, and tailing in.....	(NA)	1.1	4.1	13818 02	Drilling in, spudding in, and tailing in.....	(NA)	12.2	12.5
13818 04	Reworking wells.....	(NA)	0.8	2.8	13818 04	Reworking wells.....	(NA)	58.7	75.4
13818 98	Drilling oil and gas wells, n.s.k...	(X)	² 9.5	(³)	13818 98	Drilling oil and gas wells, n.s.k...	(X)	² 45.5	(³)
OHIO					ARKANSAS				
18318 --	Drilling oil and gas wells, total....	(X)	18.0	11.5	13818 01	Drilling oil, gas, dry, and service wells.....	1,131	4.3	7.3
13818 01	Drilling oil, gas, dry, and service wells.....	3,219	12.6	10.7	LOUISIANA				
13818 02	Drilling in, spudding in, and tailing in.....	(NA)	(⁴)	0.8	1381- --	Drilling oil and gas wells, total.....	(X)	255.8	246.4
13818 04	Reworking wells.....	(NA)	0.2		13818 01	Drilling oil, gas, dry, and service wells.....	23,003	208.9	224.0
13818 98	Drilling oil and gas wells, n.s.k.	(X)	² 45.2	(³)	13818 02	Drilling in, spudding in, and tailing in.....	(NA)	(⁴)	1.6
INDIANA					13818 04	Reworking wells.....	(NA)	29.6	20.8
1381- --	Drilling oil and gas wells.....	(X)	3.4	4.1	13818 98	Drilling oil and gas wells, n.s.k...	(X)	² 417.3	(³)
13818 01	Drilling oil, gas, dry, and service wells.....	461	1.9	3.1	OKLAHOMA				
WEST NORTH CENTRAL DIVISION					13818 01	Drilling oil, gas, dry, and service wells.....	13,365	58.9	65.9
1381- --	Drilling oil and gas wells, total.....	(X)	33.3	45.1	TEXAS				
13818 01	Drilling oil, gas, dry and service wells.....	8,024	25.3	39.2	1381- --	Drilling oil and gas wells, total.....	(X)	246.8	311.9
13818 02	Drilling in, spudding in, and tailing in.....	(NA)	1.0	3.4	13818 01	Drilling oil, gas, dry, and service wells.....	36,689	190.4	260.8
13818 04	Reworking wells.....	(NA)	2.3	2.6	13818 02	Drilling in, spudding in, and tailing in.....	(NA)	3.6	7.6
13818 98	Drilling oil and gas wells, n.s.k...	(X)	² 4.7	(³)	13818 04	Reworking wells.....	(NA)	24.1	43.5
NEBRASKA					13818 98	Drilling oil and gas wells, n.s.k.	(X)	² 28.7	(³)
1381- --	Drilling oil and gas wells.....	(X)	2.6	4.7	MOUNTAIN DIVISION				
13818 01	Drilling oil, gas, dry, and service wells.....	933	2.6	4.3	1381- --	Drilling oil and gas wells, total.....	(X)	87.2	97.9
KANSAS					13818 01	Drilling oil, gas, dry, and service wells.....	14,279	72.1	85.4
1381- --	Drilling oil, and gas wells,	(X)	24.1	36.0	13818 02	Drilling in, spudding in, and tailing in.....	(NA)	0.2	2.8
13818 01	Drilling oil, gas, dry, and service wells.....	6,225	18.0	31.1	13818 04	Reworking wells.....	(NA)	3.5	9.7
SOUTH ATLANTIC DIVISION					13818 98	Drilling oil and gas wells, n.s.k...	(X)	² 11.5	(³)
1381- --	Drilling oil and gas wells, total.....	(X)	10.5	14.5	1381- --	Drilling oil and gas wells, total.....	(X)	87.2	97.9
13818 01	Drilling oil, gas, dry, and service wells.....	1,457	6.1	13.4	13818 01	Drilling oil, gas, dry, and service wells.....	14,279	72.1	85.4
13818 02	Drilling in, spudding in, and tailing in.....	(NA)	(⁴)	0.6	13818 02	Drilling in, spudding in, and tailing in.....	(NA)	0.2	2.8
13818 04	Reworking wells.....	(NA)	0.2	0.5	13818 04	Reworking wells.....	(NA)	3.5	9.7
13818 98	Drilling oil and gas wells, n.s.k...	(X)	² 44.3	(³)	13818 98	Drilling oil and gas wells, n.s.k...	(X)	² 11.5	(³)

See footnotes at end of table.

1967 CENSUS OF MINERAL INDUSTRIES

TABLE 3. Primary Services of the Industry, by Geographic Areas: 1967 and 1963—Continued

(Includes services reported not only by establishments classified in this industry, but also by establishments classified in other industries. See appendix, under "Individual Products")

Code	Type of service and geographic area	Footage	Receipts for services		Code	Type of service and geographic area	Footage	Receipts for Services	
		(1,000 feet)	(million dollars)	(million dollars)			(1,000 feet)	(million dollars)	(million dollars)
		1967	1967	1963 ¹			1967	1967	1963 ¹
MONTANA					NEW MEXICO				
1381- --	Drilling oil and gas wells, total.....	(X)	14.1	14.2	1381- --	Drilling oil and gas wells, total.....	(X)	30.5	39.9
13818 01	Drilling oil, gas, dry, and service wells.....	2,238	11.3	11.9	13818 01	Drilling oil, gas, dry, and service wells.....	4,678	24.9	35.0
13818 02	Drilling in, spudding in, and tailing in.....	-	-	0.8	13818 02	Drilling in, spudding in, and tailing in.....	(NA)	(2)	0.1
13818 04	Reworking wells.....	(NA)	(⁴)	1.5	13818 04	Reworking wells.....	(NA)	2.0	4.7
13818 98	Drilling oil and gas wells, n.s.k...	(X)	² 42.8	(³)	13818 98	Drilling oil and gas wells, n.s.k...	(X)	² 3.7	(³)
WYOMING					PACIFIC DIVISION				
1381- --	Drilling oil and gas wells, total.....	(X)	25.4	26.0	1381- --	Drilling oil and gas wells, total.....	(X)	94.4	53.2
13818 01	Drilling oil, gas, dry, and service wells.....	4,055	21.5	22.6	13818 01	Drilling oil, gas, dry, and service wells.....	9,683	82.8	46.1
13818 02	Drilling in, spudding in, and tailing in.....	(NA)	(⁴)	1.4	13818 02	Drilling in, spudding in, and tailing in.....	(NA)	(⁴)	3.7
13818 04	Reworking wells.....	(NA)	1.0	2.0	13818 04	Reworking wells.....	(NA)	2.1	3.3
13818 98	Drilling oil and gas wells, n.s.k...	(X)	² 42.9	(³)	13818 98	Drilling oil and gas wells, n.s.k...	(X)	² 49.5	(³)
COLORADO					CALIFORNIA				
1381- --	Drilling oil and gas wells, total.....	(X)	9.7	8.7	1381- --	Drilling oil and gas wells, total.....	(X)	60.8	46.9
13818 01	Drilling oil, gas, dry, and service wells.....	2,435	8.2	6.9	13818 01	Drilling oil, gas, dry, and service wells.....	7,627	50.0	39.8
13818 02	Drilling in, spudding in, and tailing in.....	(NA)	-	0.4	13818 02	Drilling in, spudding in, and tailing in.....	(NA)	(⁴)	3.7
13818 04	Reworking wells.....	(NA)	(⁴)	1.4	13818 04	Reworking wells.....	(NA)	2.1	3.3
13818 98	Drilling oil and gas wells, n.s.k...	(X)	² 41.5	(³)	13818 98	Drilling oil and gas wells, n.s.k...	(X)	² 48.7	(³)

Note: Detail may not add to totals due to independent rounding.

- Represents zero. (NA) Not available. n.s.k. Not specified by kind. (2) Less than \$50 thousand.

¹In general, contractors prepared one report for all oil and gas field services performed in the United States. These reports were classified on the basis of the largest State in which the service was performed.²Includes estimates for establishments which did not report specified services. Estimates for administrative records (establishments with less than 5 employees) accounted for \$23.4 billion at the United States level. Reported figures for "directional drilling control" were also included.³Approximately \$24.5 billion of receipts for services not specified by kind were allocated to reported service categories in 1963.⁴Figures were combined with "drilling oil and gas wells, n.s.k." to avoid disclosing individual company data.

TABLE 4. Selected Supplies and Purchased Machinery Installed: 1967 and 1963

(See appendix, "Explanation of Terms")

Code	Supplies	1967		1963	
		Quantity (1,000 short tons)	Cost (million dollars)	Quantity (1,000 short tons)	Cost (million dollars)
	INDUSTRY 1381.--DRILLING OIL AND GAS WELLS				
	Selected supplies and purchased machinery installed, total.....	(X)	310.6	(X)	345.2
331201	Steel mill shapes and forms.....	(NA)	26.8	75.5	20.8
353011	Purchased machinery installed.....	(X)	80.6	(X)	115.7
970099	All other supplies used.....	(X)	168.4	(X)	158.4
976000	Selected supplies and purchased machinery installed, n.s.k. ¹	(X)	34.8	(X)	50.3

(NA) Not available. (X) Not applicable. n.s.k. Not specified by kind.

¹This represents the total cost of supplies for establishments that did not report detailed supplies data. For 1967 this also includes estimates for establishments that were not mailed report forms.

SCOPE AND COVERAGE

This report is one of a series presenting preliminary information on industries and products from the 1967 Census of Mineral Industries. The data will be superseded in a final report which in turn will be included in Volume I, Summary and Industry Statistics, 1967 Census of Mineral Industries. That report will include a comprehensive discussion of the concepts and definitions used in the census.

The census of mineral industries covers each mining establishment of firms in the United States with one or more paid employees. Firms which operate more than one establishment were required to file a separate report for each location. Companies which engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation and the activities were of significant size.

For oil and gas field operation and contract services, reports were required for units somewhat different from the "establishment" reporting unit used for other types of mining. Every concern which operated oil and gas wells, drilled such wells for its own account or for others, performed exploration work for oil or gas, or performed oil and gas field services for others during any part of calendar year 1967 was required to submit a separate report for each State or for each district within Texas, Louisiana, New Mexico, and California (however, information on employment, oil and gas production, and capital expenditures was requested by county). Further, concerns which supplied contract services for others were required to submit a separate report for each State. (In this instance also, information on employment, receipts for services, and capital expenditures was requested by county.)

In the 1967 census, for the first time, approximately 10,000 single-unit establishments with 1 to 4 employees were excused from filing reports. Under special arrangements which safeguarded the confidentiality of both tax and census records, limited data on payrolls, sales, and industry classification from the administrative records of the Social Security Administration and the Internal Revenue Service were made available to the Census Bureau for use in the 1967 censuses of business, manufactures, and mineral industries. Estimates for data other than payrolls and sales for these small establishments were constructed from industry averages. The effect on industry aggregates is slight in most industries. For mining as a whole, they account for less than 1 percent of value added. In industry 1381, these small establishments accounted for less than 3 percent of value added.

In the 1967 Census of Mineral Industries, data for all single-unit establishments without paid employees were excluded because of the difficulty in

developing a mailing list for these establishments. The exclusion of these establishments has had only a slight effect on industry aggregates for most industries. Data for establishments without employees were included in the 1963, 1958, and 1954 censuses if these establishments reported more than \$500 in one of the following data items: (1) value of shipments and receipts, (2) cost of supplies and purchased machinery, or (3) capital expenditures. In the 1963 census, establishments without paid employees for mining as a whole accounted for approximately 3 percent of value added, while they accounted for less than 2 percent of value added for industry 1381.

As in earlier censuses, a number of small establishments may have been misclassified as to industry. However, such possible misclassifications have no significant effect on the statistics other than the number of establishments. As indicated above, report forms were not mailed to very small establishments (less than 5 employees). The industry classifications for these establishments were assigned on the basis of brief descriptions of the general activity of the establishment. Where the description is incomplete or there are relatively fine lines of demarcation between industries or between mining and nonmining activity, the code assigned to an establishment could differ from that which would have been assigned on the basis of more complete product information. Therefore, the total establishment count should be reviewed as an approximation rather than a precise measurement. The counts of establishments with 20 or more employees are far more reliable than the total number of establishments.

More detailed figures for this industry will appear in the final census reports. Final reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each mineral industry and for each State are being issued. Final industry reports and final area reports will be published during the spring and fall of 1970. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C. 20233.

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Appendix

EXPLANATION OF TERMS

(For a more complete discussion of these terms and the method of compiling the Census of Mineral Industries, see the Introduction to the 1963 Census of Mineral Industries, Volume I.)

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Payroll--This item includes all forms of compensation such as salaries, wages, commissions, dismissal pay, all bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' Social Security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of these establishments, if a corporation; it excludes payments to the proprietor or partners, if an unincorporated concern. Respondents were told that in reporting they could follow the definition of payroll used for calculating the Federal withholding tax.

Production, Development, and Exploration Worker Man-Hours--The total man-hours figures represent all man-hours that production, development, and exploration workers worked both on active days during which there was production or development work, and inactive days, when only watchmen, inspectors, repairmen, and other maintenance men were on duty. They include all man-hours worked or paid for at the mining operations, except hours paid for vacations, holidays, or sick leave, when the employee was not at the establishment. Included are actual overtime hours, not straight-time equivalent hours. Man-hours of working proprietors or partners are excluded.

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Separate figures were obtained for (a) selected supplies, minerals received for preparation, and purchased machinery installed; (b) electric energy purchased; (c) purchased fuels used for heat, power, or the generation of electricity; (d) contract work done by others; and (e) products bought and resold in the same condition. Supplies and equipment used in mine development, plant expansion, and capitalized repairs, which are chargeable to fixed assets accounts, were included, as were supplies furnished without charge to contractors for use at the mining operation and supplies sold to employees for use at the establishment. No data on such costs as advertising, insurance, telephone, and research and consulting services of other establishments; or on overhead costs, such as depreciation charges, rent, interest, and royalties were included in this item.

Specific Supplies Used and Minerals Prepared--In addition to the total cost of supplies, etc., and purchased machinery which every establishment was required to report, information was also collected on the consumption of major supplies used in mining. These supplies inquiries were restricted to those supplies which were important parts of the cost of production, exploration, and development of a particular industry and for which cost information was available from the firms' records. Information regarding the specific supplies consumed is shown in table 4.

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ments. Figures were obtained on minerals prepared from three sources: (1) Crude minerals mined at the establishment (quantity); (2) crude minerals received from other establishments of the company or purchased from others (quantity and cost); and (3) crude minerals received for preparation on a custom or toll basis (quantity and estimated value).

Establishments consuming less than a specified amount (usually \$5,000) were not requested to report the cost of a supply separately. Also, the cost of supplies for small establishments for which administrative records were used were imputed as "not specified by kind." (See text for importance of administrative records in the industry.)

Capital Expenditures--In the 1967 census, mining companies were asked to report expenditures made during the year for development and exploration of mineral properties, for new construction, and for machinery purchased at their operations that was chargeable to fixed assets accounts of the mineral establishment and were of a type for which depreciation, depletion, or Office of Minerals Exploration accounts were ordinarily maintained. Capital expenditures during 1967 were to be determined as "additions completed during the year plus construction in progress at the end of the year minus construction in progress at the beginning of the year." Reported capital expenditures were to include work done on contract as well as by the mine forces. Expenditures for machinery and equipment were to include those made for replacement purposes, as well as those for additions to capacity. Excluded from such expenditures totals are costs of maintenance and repairs charged as current operating expense. Also excluded are expenditures for land and mineral rights.

Wherever applicable, separate figures were provided for expenditures for (a) development and exploration of mineral property, (b) preparation plant construction and other construction, (c) new machinery and equipment, and (d) used plant and used equipment acquired from others.

Value of Shipments--The amounts under value of shipments are the values, f.o.b., mine, well, or plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts such as receipts for contract work performed for others, installation and repair, sales of scrap, and sale of products bought and resold without further processing. Included are all items produced by

the establishments and sold, transferred to other plants of the same company, or shipped on consignment.

In the case of multiunit companies, the firm was requested to report the value of products transferred to other establishments of the same company at full economic or commercial value, i.e., include not only the direct costs of production but also a reasonable proportion of "all other costs" (including company overhead) and profit.

Individual Products--In the 1967 Census of Mineral Industries, information on output of about 225 individual mineral product items was collected.

In general, the 1967 and 1963 minerals censuses figures were confined to separate totals for each crude and each prepared mineral. Where significant, separate shipments figures were also obtained for crude minerals going to preparation plants and those going to consumers.

Figures were collected on both quantity and value of shipments. Shipments include commercial shipments and transfers of products to other operations of the same company. For products which are used to a significant extent within the same establishment for power or heat, and for minerals mined and prepared in the same establishment, total production or separate data on production for such uses were collected. Typically, production was also collected for products for which there are usually significant differences between total production and total shipments as a result of stock changes.

For service industries, the amount received or due for services performed during 1967 was collected as a measure of output. For mine operators who also perform services, the amount received for such services was added to the total value of products shipped to determine total value of shipments and receipts for each establishment.

Table 3 of the individual industry reports provides the national and regional total shipments from all industries for each of the products primary to the industries covered in the report.

Shipments and Production--Shipments figures include all products physically shipped from the establishment during 1967, including material withdrawn from stockpiles and products shipped on consignment, whether or not sold in 1967. Prepared material or concentrates include prep-

aration from ores mined at the same establishment, purchased, received from other operations of the same company, or received for milling on a custom or toll basis. For products transferred to other establishments of the same company or prepared on a custom basis, the company was requested to include, in addition to direct costs of production, a reasonable proportion of company overhead and profits.

For industry and industry group totals, some duplication is introduced by the inclusion of materials transferred from one establishment to another for mineral preparation. Wherever value of shipments is shown without further specification, it represents gross shipments.

For years prior to 1954, data on shipments were not collected. Instead, the report forms requested data on the quantity and value of

production. In general, the data for these years were edited to represent net production, excluding duplications due to mining and later preparing the same material in the same industry.

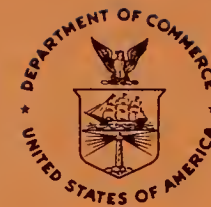
Value Added in Mining--Since the 1954 census, this measure has been computed by subtracting the cost of supplies, etc., and purchased machinery from the sum of value of shipments and receipts and capital expenditures. This statistic avoids the duplication in value of shipments which results from the use of products of some establishments as supplies, energy sources, or materials by others. Moreover, it provides a measure of value added not only in mineral production, but also in the development of mineral properties. For these reasons, it is considered to be the best value measure for comparing the relative economic importance of mining among industries and geographic areas.

THE NATIONAL ECONOMIC GOAL

Sustained maximum growth in a free market economy, without inflation, under conditions of full employment and equal opportunity

THE DEPARTMENT OF COMMERCE

The historic mission of the Department is "to foster, promote and develop the foreign and domestic commerce" of the United States. This has evolved, as a result of legislative and administrative additions, to encompass broadly the responsibility to foster, serve and promote the nation's economic development and technological advancement. The Department seeks to fulfill this mission through these activities:



MISSION AND FUNCTIONS OF THE DEPARTMENT OF COMMERCE

"to foster, serve and promote the nation's economic development and technological advancement"

Participating with other government agencies in the creation of national policy, through the President's Cabinet and its subdivisions.

- Cabinet Committee on Economic Policy
- Urban Affairs Council
- Environmental Quality Council

Promoting progressive business policies and growth.

- Business and Defense Services Administration
- Office of Field Services

Assisting states, communities and individuals toward economic progress.

- Economic Development Administration
- Regional Planning Commissions
- Office of Minority Business Enterprise

Strengthening the international economic position of the United States.

- Bureau of International Commerce
- Office of Foreign Commercial Services
- Office of Foreign Direct Investments
- United States Travel Service
- Maritime Administration

Assuring effective use and growth of the nation's scientific and technical resources.

- Environmental Science Services Administration
- Patent Office
- National Bureau of Standards
- Office of Telecommunications
- Office of State Technical Services

Acquiring, analyzing and disseminating information concerning the nation and the economy to help achieve increased social and economic benefit.

- Bureau of the Census
- Office of Business Economics

NOTE: This schematic is neither an organization chart nor a program outline for budget purposes. It is a general statement of the Department's mission in relation to the national goal of economic development.



1967 Census of MINERAL INDUSTRIES

INDUSTRY SERIES



U.S. DEPARTMENT OF COMMERCE / Bureau of the Census

preliminary report

MIC67(P)-13C-2

Oil and gas exploration services

SIC Code 1382.

The Oil and Gas Field Exploration Services Industry includes establishments primarily engaged in geophysical, geological, and other exploration work for oil and gas on a contract, fee, or other basis.

This report includes figures for administrative offices, warehouses, storage facilities, and other auxiliary units which service mining establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions contained in the 1967 edition of the Standard Industrial Classification (SIC) Manual.

In 1967, the value of services performed, products shipped, and miscellaneous receipts of establishments classified in the Oil and Gas Exploration Services Industry amounted to \$153.1 million, an increase of 27.8 percent compared with 1963. Value added in mining amounted to \$126.4 million in 1967, an increase of 40.4 percent from 1963. Average employment in the industry showed a decrease of 2.3 percent from 1963 to a total of 8.5 thousand employees in 1967.

For an explanation of the terms used in the tables, see appendix at the end of this report.

TABLE 1. General Statistics: 1967 and Earlier Years

(See appendix, "Explanation of Terms")

Year	Establishments		All employees		Production, development, and exploration workers			Value added in mining	Cost of supplies, etc., and purchased machinery installed	Value of shipments and receipts	Capital expendi- tures
	Total	With 20 employ- ees or more	Number	Payroll	Number	Man-hours	Wages				
	(number)	(number)	(1,000)	(million dollars)	(1,000)	(millions)	(million dollars)	(million dollars)	(million dollars)	(million dollars)	(million dollars)
INDUSTRY 1382.--OIL AND GAS EXPLORATION SERVICES											
1967.....	¹ 629	¹ 99	8.5	53.9	6.6	15.5	40.8	126.4	46.8	153.1	20.0
1963.....	373	68	8.7	47.8	7.2	16.2	36.9	90.0	41.6	119.8	11.7
1958 ²	347	76	9.6	43.6	7.6	16.7	31.1	64.4	29.9	87.2	7.1
1954.....	330	(NA)	11.5	49.5	10.0	24.0	40.8	81.3	40.3	114.8	6.7
1939.....	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	12.6	(NA)

(NA) Not available.

¹Establishment counts for 1967 are not entirely comparable to prior years since companies were required to file separate reports for each State (or for each district in California, Louisiana, New Mexico, and Texas) in which they had operations during 1967. Prior to 1967 a company was required to file only a single report for all oil and gas field services performed in the United States.

²Excludes figures for Alaska for 1 establishment.

TABLE 2. General Statistics, by Geographic Areas: 1967 and 1963

(See appendix, "Explanation of Terms")

Geographic area	1967											1963	
	Establishments		All employees		Production, development, and exploration workers			Value added in mining (million dollars)	Cost of supplies, etc., and purchased machinery installed (million dollars)	Value of shipments and receipts (million dollars)	Capital expenditures (million dollars)	All employees (1,000)	Value added in mining (million dollars)
	Total (number)	With 20 employees or more (number)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Man-hours (millions)	Wages (million dollars)						
	INDUSTRY 1382.--OIL AND GAS EXPLORATION SERVICES												
United States.....	629	99	8.5	53.9	6.6	15.5	40.8	126.4	46.8	153.1	20.0	8.7	90.0
East North Central.....	35	7	0.1	0.8	0.1	0.2	0.6	1.6	0.4	1.8	0.2	(NA)	(NA)
Illinois.....	14	-	(Z)	0.1	(Z)	(Z)	0.1	0.4	0.1	0.5	(Z)	(NA)	(NA)
Michigan.....	10	-	(Z)	0.3	(Z)	0.1	0.2	0.5	0.1	0.6	0.1	(NA)	(NA)
West North Central.....	24	1	0.1	0.8	0.1	0.2	0.5	2.4	0.7	2.9	0.3	0.3	2.1
Kansas.....	17	1	0.1	0.7	0.1	0.2	0.4	2.1	0.6	2.6	0.2	0.3	2.1
South Atlantic.....	20	3	0.1	0.8	0.1	0.2	0.7	1.4	0.6	1.7	0.3	0.4	2.1
East South Central.....	36	3	0.3	1.8	0.3	0.7	1.6	3.8	1.6	4.7	0.7		
West South Central.....	333	67	5.6	35.5	4.5	10.6	26.6	86.4	31.2	103.5	14.2	6.4	60.6
Louisiana.....	63	17	1.9	10.9	1.6	3.8	8.8	29.9	11.5	37.6	3.8	1.6	17.1
Texas.....	217	40	3.1	20.2	2.5	5.8	14.9	49.4	17.6	57.5	9.5	4.1	36.1
Mountain.....	116	7	0.9	5.0	0.7	1.6	4.3	13.5	4.6	16.1	2.0	0.6	6.3
Montana.....	17	-	(Z)	0.1	(Z)	(Z)	0.1	0.7	0.2	0.8	(Z)	(NA)	(NA)
Wyoming.....	23	2	0.3	1.3	0.2	0.5	1.1	3.0	1.0	3.6	0.4	0.2	2.4
Colorado.....	35	3	0.2	1.2	0.1	0.3	1.1	3.7	0.7	4.2	0.2	0.1	1.3
New Mexico.....	16	2	0.3	1.8	0.3	0.6	1.5	4.9	2.1	6.1	0.9	0.2	1.3
Utah.....	14	-	(Z)	0.4	(Z)	0.1	0.4	0.8	0.4	1.0	0.2	(NA)	(NA)
Pacific.....	56	15	1.0	8.1	0.7	1.6	5.6	15.7	5.7	19.3	2.1	1.0	18.1

Note: Detail may not add to totals because of independent rounding.

- Represents zero. (NA) Not available. (Z) Less than one-half the unit of measure specified.

**TABLE 3. Oil and Gas Exploration Services Performed by
All Mineral Industries, by Geographic Areas: 1967 and 1963**

(Includes value of services reported not only by establishments classified in this industry, but also by establishments classified in other industries.)

Product code	Type of service and geographic area	Receipts for Services (million dollars)	
		1967	1963 ¹
	UNITED STATES		
1382- --	Oil and gas exploration services, total.....	145.9	112.1
13828 01	Geophysical exploration.....	117.6	² 100.1
13828 03	Other exploration.....	9.4	² 12.0
13828 99	Exploration services, n.s.k.....	18.9	(²)
	WEST NORTH CENTRAL		
1382- --	Oil and gas exploration services.....	2.9	³ 3.8
	SOUTH ATLANTIC		
1382- --	Oil and gas exploration services.....	1.6	3.1
	EAST SOUTH CENTRAL		
1382- --	Oil and gas exploration services.....	4.6	
	WEST SOUTH CENTRAL		
1382- --	Oil and gas exploration services, total.....	99.5	72.7
13828 01	Geophysical exploration.....	81.2	² 69.2
13828 03	Other exploration.....	6.8	² 3.5
13828 99	Exploration services, n.s.k.....	11.6	(²)
	LOUISIANA		
1382- --	Oil and gas exploration services.....	35.1	19.6
	TEXAS		
1382- --	Oil and gas exploration services, total.....	56.5	46.0
13828 01	Geophysical exploration.....	46.3	² 43.0
13828 03	Other exploration.....	2.4	² 3.0
13828 99	Exploration services, n.s.k.....	7.7	(²)
	MOUNTAIN		
1382- --	Oil and gas exploration services, total.....	15.6	9.7
13828 01	Geophysical exploration.....	10.6	² 6.3
13828 03	Other exploration.....	1.8	(NA)
13828 99	Exploration services, n.s.k.....	3.2	(²)
	PACIFIC		
1382- --	Oil and gas exploration services.....	18.6	20.1
13828 01	Geophysical exploration.....	17.5	(NA)

Note: Detail may not add to totals due to independent rounding.

(NA) Not available. n.s.k. Not specified by kind. (X) Not applicable.

¹In general, contractors prepared one report for all oil and gas field services performed in the United States. These reports were classified on the basis of the principal State in which the service was performed. Separate data were contained in these reports for the various kinds of work performed.

²Exploration services, n.s.k., which accounted for approximately 6 percent of all oil and gas exploration services at the United States level in 1963 were allocated proportionately to geophysical and other exploration services at all geographic levels.

³For 1963, all reported by establishments classified in Kansas.

1967 CENSUS OF MINERAL INDUSTRIES

TABLE 4. Selected Supplies and Purchased Machinery Installed: 1967 and 1963

(See appendix, "Explanation of Terms")

Code	Supplies	Unit of measure	1967		1963	
			Quantity	Cost (million dollars)	Quantity	Cost (million dollars)
	INDUSTRY 1382.--OIL AND GAS EXPLORATION SERVICES					
	Selected supplies and purchased machinery installed, total...	.....	(X)	34.4	(X)	25.5
331201	Steel mill shapes and forms.....	.....	(NA)	1.7	97.9	0.9
353011	Purchased machinery installed.....	.....	(X)	16.7	(X)	10.1
970099	All other supplies.....	.....	(X)	12.5	(X)	8.9
976000	Selected supplies and purchased machinery installed, n.s.k. ¹	(X)	3.4	(X)	5.7

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(NA) Not available. (X) Not applicable.

¹This item represents the total cost of supplies for establishments that did not report detailed supplies. For 1967, this also includes estimates for companies that were not mailed report forms.

SCOPE AND COVERAGE

This report is one of a series presenting preliminary information on industries and products from the 1967 Census of Mineral Industries. The data will be superseded in a final report which in turn will be included in Volume I, Summary and Industry Statistics, 1967 Census of Mineral Industries. That report will include a comprehensive discussion of the concepts and definitions used in the census.

The census of mineral industries covers each mining establishment of firms in the United States with one or more paid employees. Firms which operate more than one establishment were required to file a separate report for each location. Companies which engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation and the activities were of significant size.

For oil and gas field operation and contract services, reports were required for units somewhat different from the "establishment" reporting unit used for other types of mining. Every concern which operated oil and gas wells, drilled such wells for its own account or for others, performed exploration work for oil or gas, or performed oil and gas field services for others during any part of calendar year 1967 was required to submit a separate report for each State or for each district within Texas, Louisiana, New Mexico, and California (however, information on employment, oil and gas production, and capital expenditures was requested by county). Further, concerns which supplied contract services for others were required to submit a separate report for each State. (In this instance also, information on employment, receipts for services, and capital expenditures was requested by county.)

In the 1967 census, for the first time, approximately 10,000 single-unit establishments with 1 to 4 employees were excused from filing reports. Under special arrangements which safeguarded the confidentiality of both tax and census records, limited data on payrolls, sales, and industry classification from the administrative records of the Social Security Administration and the Internal Revenue Service were made available to the Census Bureau for use in the 1967 censuses of business, manufactures, and mineral industries. Estimates for data other than payrolls and sales for these small establishments were constructed from industry averages. The effect on industry aggregates is slight in most industries. For mining as a whole, they account for less than 1 percent of value added. In industry 1382, these small establishments accounted for approximately 6 percent of value added.

In the 1967 Census of Mineral Industries, data for all single-unit establishments without paid employees were excluded because of the difficulty in

developing a mailing list for these establishments. The exclusion of these establishments has had only a slight effect on industry aggregates for most industries. Data for establishments without employees were included in the 1963, 1958, and 1954 censuses if these establishments reported more than \$500 in one of the following data items: (1) value of shipments and receipts, (2) cost of supplies and purchased machinery, or (3) capital expenditures. In the 1963 census, establishments without paid employees for mining as a whole without paid employees for mining as a whole accounted for approximately 3 percent of value added, while they accounted for less than 1 percent of value added for industry 1382.

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On report forms for almost all mineral industries, except the contract services industries, a uniform inquiry was included on minerals prepared at the reported establish-

ments. Figures were obtained on minerals prepared from three sources: (1) Crude minerals mined at the establishment (quantity); (2) crude minerals received from other establishments of the company or purchased from others (quantity and cost); and (3) crude minerals received for preparation on a custom or toll basis (quantity and estimated value).

Establishments consuming less than a specified amount (usually \$5,000) were not requested to report the cost of a supply separately. Also, the cost of supplies for small establishments for which administrative records were used were imputed as "not specified by kind." (See text for importance of administrative records in the industry.)

Capital Expenditures--In the 1967 census, mining companies were asked to report expenditures made during the year for development and exploration of mineral properties, for new construction, and for machinery purchased at their operations that was chargeable to fixed assets accounts of the mineral establishment and were of a type for which depreciation, depletion, or Office of Minerals Exploration accounts were ordinarily maintained. Capital expenditures during 1967 were to be determined as "additions completed during the year plus construction in progress at the end of the year minus construction in progress at the beginning of the year." Reported capital expenditures were to include work done on contract as well as by the mine forces. Expenditures for machinery and equipment were to include those made for replacement purposes, as well as those for additions to capacity. Excluded from such expenditures totals are costs of maintenance and repairs charged as current operating expense. Also excluded are expenditures for land and mineral rights.

Wherever applicable, separate figures were provided for expenditures for (a) development and exploration of mineral property, (b) preparation plant construction and other construction, (c) new machinery and equipment, and (d) used plant and used equipment acquired from others.

Value of Shipments--The amounts under value of shipments are the values, f.o.b., mine, well, or plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts such as receipts for contract work performed for others, installation and repair, sales of scrap, and sale of products bought and resold without further processing. Included are all items produced by

the establishments and sold, transferred to other plants of the same company, or shipped on consignment.

In the case of multiunit companies, the firm was requested to report the value of products transferred to other establishments of the same company at full economic or commercial value, i.e., include not only the direct costs of production but also a reasonable proportion of "all other costs" (including company overhead) and profit.

Individual Products--In the 1967 Census of Mineral Industries, information on output of about 225 individual mineral product items was collected.

In general, the 1967 and 1963 minerals censuses figures were confined to separate totals for each crude and each prepared mineral. Where significant, separate shipments figures were also obtained for crude minerals going to preparation plants and those going to consumers.

Figures were collected on both quantity and value of shipments. Shipments include commercial shipments and transfers of products to other operations of the same company. For products which are used to a significant extent within the same establishment for power or heat, and for minerals mined and prepared in the same establishment, total production or separate data on production for such uses were collected. Typically, production was also collected for products for which there are usually significant differences between total production and total shipments as a result of stock changes.

For service industries, the amount received or due for services performed during 1967 was collected as a measure of output. For mine operators who also perform services, the amount received for such services was added to the total value of products shipped to determine total value of shipments and receipts for each establishment.

Table 3 of the individual industry reports provides the national and regional total shipments from all industries for each of the products primary to the industries covered in the report.

Shipments and Production--Shipments figures include all products physically shipped from the establishment during 1967, including material withdrawn from stockpiles and products shipped on consignment, whether or not sold in 1967. Prepared material or concentrates include prep-

aration from ores mined at the same establishment, purchased, received from other operations of the same company, or received for milling on a custom or toll basis. For products transferred to other establishments of the same company or prepared on a custom basis, the company was requested to include, in addition to direct costs of production, a reasonable proportion of company overhead and profits.

For industry and industry group totals, some duplication is introduced by the inclusion of materials transferred from one establishment to another for mineral preparation. Wherever value of shipments is shown without further specification, it represents gross shipments.

For years prior to 1954, data on shipments were not collected. Instead, the report forms requested data on the quantity and value of

production. In general, the data for these years were edited to represent net production, excluding duplications due to mining and later preparing the same material in the same industry.

Value Added in Mining--Since the 1954 census, this measure has been computed by subtracting the cost of supplies, etc., and purchased machinery from the sum of value of shipments and receipts and capital expenditures. This statistic avoids the duplication in value of shipments which results from the use of products of some establishments as supplies, energy sources, or materials by others. Moreover, it provides a measure of value added not only in mineral production, but also in the development of mineral properties. For these reasons, it is considered to be the best value measure for comparing the relative economic importance of mining among industries and geographic areas.

A-3

U.S. DEPARTMENT OF COMMERCE
Bureau of the Census
Washington, D.C. 20233

OFFICIAL BUSINESS



POSTAGE AND FEES PAID
U.S. DEPARTMENT OF COMMERCE

1967 Census of
MINERAL INDUSTRIES

INDUSTRY SERIES

U.S. DEPARTMENT OF COMMERCE/Bureau of the Census

preliminary report

MIC67(P)-13C-3

Oil and gas field services, n.e.c.

SIC Code 1389

The Oil and Gas Field Services, Not Elsewhere Classified, Industry includes establishments primarily engaged in performing, for others on a contract, fee, or other basis, oil and gas field services, not elsewhere classified, such as excavating slush pits and cellars; grading, and building of foundations at well locations; well surveying; running, cutting, and pulling casings, tubes, and rods; cementing wells; shooting wells; perforating well casing; acidizing and chemically treating wells; and cleaning out, bailing, and swabbing wells.

This report includes figures for administrative offices, warehouses, storage facilities, and other auxiliary units which service mining establishments. The classification of establishments for which data are tabulated in this report is based

upon the definitions contained in the 1967 edition of the Standard Industrial Classification (SIC) Manual.

In 1967, the value of products shipped and miscellaneous receipts of establishments classified in the Oil and Gas Field Services, N.E.C., Industry amounted to \$968.9 million, an increase of 34.8 percent compared with 1963. Value added in mining amounted to \$759.0 million in 1967, an increase of 52.4 percent from 1963. Average employment in the industry showed an increase of 12.2 percent from 1963 to a total of 54.2 thousand employees in 1967.

For an explanation of the terms used in the tables, see appendix at the end of this report.

TABLE 1. General Statistics: 1967 and Earlier Years

(See appendix, "Explanation of Terms")

Year	Establishments ¹		All employees		Production, development, and exploration workers			Value added in mining (million dollars)	Cost of supplies, etc., and purchased machinery installed (million dollars)	Value of shipments and receipts (million dollars)	Capital expenditures (million dollars)
	Total	With 20 employ-ees or more	Number	Payroll	Number	Man-hours	Wages				
	(number)	(number)	(1,000)	(million dollars)	(1,000)	(millions)	(million dollars)				
	INDUSTRY 1389.--OIL AND GAS FIELD SERVICES, N.E.C.										
1967.....	3,856	750	54.2	356.8	44.7	99.3	273.3	759.0	294.8	968.9	84.8
1963.....	3,003	434	48.3	265.7	39.0	84.1	199.4	498.0	288.9	718.8	68.2
1958 ²	2,504	411	47.3	228.0	38.2	86.1	166.9	456.0	219.9	633.7	42.2
1954.....	2,316	(NA)	46.4	187.9	40.0	90.1	147.0	413.3	187.9	543.5	57.7
1939 ³	(NA)	(NA)	11.3	15.0	10.0	14.0	11.8	(NA)	(NA)	³ 46.8	(NA)

(NA) Not available.

¹Establishment counts for 1967 are not entirely comparable to earlier years since companies were required to file separate reports for each State (or for each district in California, Louisiana, New Mexico, and Texas) in which they performed services during 1967. Prior to 1967, a company was required to file only a single report for all oil and gas field services performed in the United States.

²Excludes figures for Alaska. In 1958 one establishment was reported.

³Represents value of net shipments and receipts which excludes data for establishments primarily engaged in well surveying and well logging services. The total receipts for services by such establishments in 1939 was \$5.0 million.

TABLE 2. General Statistics, by Geographic Areas: 1967 and 1963

(See appendix, "Explanation of Terms")

Geographic area	1967											1963	
	Establishments ¹		All employees		Production, development, and exploration workers			Value added in mining (million dollars)	Cost of supplies, etc., and purchased machinery installed (million dollars)	Value of shipments and receipts (million dollars)	Capital expenditures (million dollars)	All employees (1,000)	Value added in mining (million dollars)
	Total	With 20 employees or more	Number	Payroll	Number	Man-hours	Wages						
	(number)	(number)	(1,000)	(million dollars)	(1,000)	(millions)	(million dollars)	(million dollars)	(million dollars)	(million dollars)	(million dollars)	(1,000)	(million dollars)
INDUSTRY 1389.--OIL AND GAS FIELD SERVICES, N.E.C.													
United States.....	3,856	750	54.2	356.8	44.7	99.3	273.3	759.0	294.8	968.9	84.8	48.3	498.0
West South Central.....	2,301	490	37.5	244.5	30.3	66.4	181.7	494.3	196.0	634.5	55.8	37.2	396.5
Arkansas.....	45	6	0.3	1.9	0.3	0.6	1.5	4.8	1.5	5.8	0.6	0.4	2.4
Louisiana.....	379	116	10.3	76.1	8.7	20.0	60.2	182.3	79.0	236.5	24.8	10.5	104.6
Oklahoma.....	414	68	5.8	36.5	3.9	8.4	20.5	59.8	20.5	74.7	5.6	4.3	26.7
Texas.....	1,463	300	21.0	130.1	17.4	37.4	99.6	247.4	94.9	317.5	24.8	22.0	262.8
Mountain.....	440	85	5.2	32.7	4.5	9.5	26.6	78.4	27.5	97.0	8.9	3.1	28.9
Wyoming.....	114	20	1.3	9.0	1.2	2.5	7.4	22.1	7.3	26.8	2.5	0.7	8.0
New Mexico.....	173	38	2.4	13.8	2.0	4.3	11.3	33.6	12.5	42.5	3.6	0.2	2.4
Pacific.....	300	74	4.8	39.6	4.2	9.0	32.8	97.4	34.6	120.9	11.1	2.6	28.6

Note: Detail may not add to totals due to independent rounding.

¹See footnote 1, table 1.

TABLE 3. Value of Services of the Oil and Gas Field Services, N.E.C., Industry by All Industries by Geographic Area: 1967 and 1963

(Includes value of receipts for services reported not only by establishments classified in this industry, but also by establishments classified in other industries and reporting these receipts as "secondary" receipts)

Service code	Service and geographic area	Unit of measure	1967 ^{1 2}		1963 ^{1 2}	
			Receipts for services		Receipts for services	
			Quantity	Value (million dollars)	Quantity	Value (million dollars)
UNITED STATES						
1389- --	Oil and gas field services, n.e.c., total.....		(X)	958.1	(X)	665.0
13898 01	Cementing wells.....		(X)	117.8	(X)	86.6
13898 02	Acidizing and other chemical treatment of wells, excluding hydraulic fracturing.....	1,000 wells..	27.7	43.6	(NA)	77.2
13898 11	Hydraulic fracturing.....	..do.....	27.7	57.9		
13898 03	Perforating well casing.....		(X)	37.4	(X)	30.5
13898 04	Well surveying and well logging.....		(X)	113.4	(X)	119.3
13898 09	Building (erecting), repairing, or dismantling rigs and derricks..		(X)	6.7	(X)	6.6
13898 14	Running, cutting, and pulling casing, tubes, or rods.....		(X)	51.0	(X)	57.9
13898 15	Installing production equipment, such as wellhead fittings, pumps, and engines.....		(X)	29.7	(X)	24.1
13898 18	Excavating slush pits or cellars.....		(X)	4.0	(X)	7.2
13898 25	Cleaning out, bailing out, or swabbing wells.....	1,000 wells..	(NA)	48.3	(NA)	36.2
13898 27	Erecting, cleaning, repairing, or dismantling lease tanks.....		(X)	8.5	(X)	5.8
13898 35	Pumping wells but not operating leases.....		(X)	9.9	(X)	8.0
13898 36	Other oil and gas field services.....		(X)	343.2	(X)	205.6
13898 98	Oil and gas field services, n.s.k. ³		(X)	86.8	(X)	(⁴)
WEST SOUTH CENTRAL						
1389- --	Oil and gas field services,n.e.c., total.....		(X)	618.4	(X)	528.8
13898 02	Acidizing and other chemical treatment of wells, excluding hydraulic fracturing.....	1,000 wells..	17.7	27.2	(NA)	72.5
13898 11	Hydraulic fracturing.....	..do.....	17.4	36.0	(NA)	
13898 03	Perforating well casing.....		(X)	25.1	(X)	25.9
13898 04	Well surveying and well logging.....		(X)	77.9	(X)	108.9
13898 09	Building (erecting), repairing, or dismantling rigs and derricks..		(X)	3.9	(X)	5.3
13898 14	Running, cutting, and pulling casing, tubes, or rods.....		(X)	34.2	(X)	36.5
13898 15	Installing production equipment, such as wellhead fittings, pumps and engines.....		(X)	21.4	(X)	15.0
13898 18	Excavating slush pits or cellars.....		(X)	2.6	(X)	4.5
13898 25	Cleaning out, bailing out, or swabbing wells.....	1,000 wells..	(NA)	33.7	(NA)	24.5
13898 27	Erecting, cleaning, repairing, or dismantling lease tanks.....		(X)	1.7	(X)	4.3
13898 35	Pumping wells but not operating leases.....		(X)	4.5	(X)	4.2
13898 36	Other oil and gas field services.....		(X)	296.7	(X)	227.1
13898 98	Oil and gas field services, n.s.k. ³		(X)	53.5	(X)	(⁴)
ARKANSAS						
1389- --	Oil and gas field services, n.e.c., total.....		(X)	6.2	(X)	(NA)
13898 03	Perforating well casing.....		(X)	0.3	(X)	(NA)
13898 14	Running, cutting, and pulling casing, tubes, or rods.....		(X)	0.9	(X)	(NA)
13898 36	Other oil and gas field services.....		(X)	4.0	(X)	(NA)
13898 98	Oil and gas field services, n.s.k. ³		(X)	1.0	(X)	(⁴)
LOUISIANA						
1389- --	Oil and gas field services, n.e.c., total.....		(X)	226.0	(X)	165.6
13898 03	Perforating well casing.....		(X)	9.3	(X)	8.5
13898 14	Running, cutting, and pulling casing, tubes, or rods.....		(X)	6.0	(X)	4.3
13898 36	Other oil and gas field services.....		(X)	200.1	(X)	152.8
13898 98	Oil and gas field services, n.s.k. ³		(X)	10.6	(X)	(⁴)
OKLAHOMA						
1389- --	Oil and gas field services, n.e.c., total.....		(X)	76.5	(X)	(NA)
13898 03	Perforating well casing.....		(X)	3.4	(X)	(NA)
13898 14	Running, cutting, and pulling casing, tubes, or rods.....		(X)	4.0	(X)	(NA)
13898 25	Cleaning out, bailing out, or swabbing wells.....	1,000 wells..	(NA)	8.8	(NA)	(NA)
13898 36	Other oil and gas field services.....		(X)	51.8	(X)	(NA)
13898 98	Oil and gas field services, n.s.k. ³		(X)	8.5	(X)	(⁴)
TEXAS						
1389- --	Oil and gas field services, n.e.c., total.....		(X)	309.6	(X)	322.5
13898 02	Acidizing and other chemical treatment of wells, excluding hydraulic fracturing.....	1,000 wells..	10.8	16.7	(NA)	71.1
13898 11	Hydraulic fracturing.....	..do.....	10.4	21.4		
13898 03	Perforating well casing.....		(X)	12.0	(X)	14.9
13898 04	Well surveying and well logging.....		(X)	31.2	(X)	(NA)
13898 14	Running, cutting, and pulling casing, tubes, or rods.....		(X)	23.3	(X)	25.5
13898 25	Cleaning out, bailing out, or swabbing wells.....	1,000 wells..	(NA)	16.5	(X)	14.3
13898 36	Other oil and gas field services.....		(X)	155.0	(X)	196.8
13898 98	Oil and gas field services, n.s.k. ³		(X)	33.4	(X)	(⁴)

See footnotes at end of table.

TABLE 3. Value of Services of the Oil and Gas Field Services, N.E.C., Industry by All Industries by Geographic Area: 1967 and 1963—Continued

(Includes value of receipts for services reported not only by establishments classified in this industry, but also by establishments classified in other industries and reporting these receipts as "secondary" receipts)

Service code	Service and geographic area	Unit of measure	1967 ^{1 2}		1963 ^{1 2}	
			Receipts for service		Receipts for services	
			Quantity	Value (million dollars)	Quantity	Value (million dollars)
MOUNTAIN						
1389- --	Oil and gas field services, n.e.c., total.....	.....	(X)	95.2	(X)	35.4
13898 03	Perforating well casing.....	.....	(X)	3.9	(X)	1.4
13898 04	Well surveying and well logging.....	.....	(X)	11.7	(X)	(NA)
13898 14	Running, cutting, and pulling casing, tubes, or rods.....	.....	(X)	6.9	(X)	5.4
13898 15	Installing production equipment, such as wellhead fittings, pumps, and engines.....	.....	(X)	3.5	(X)	3.0
13898 25	Cleaning out, bailing out, or swabbing wells.....	1,000 wells...	(NA)	5.5	(X)	3.6
13898 27	Erecting, cleaning, repairing, or dismantling lease tanks.....	.....	(X)	0.9	(X)	0.6
13898 35	Pumping wells but not operating leases.....	.....	(X)	1.6	(X)	0.6
13898 36	Other oil and gas field services.....	.....	(X)	52.4	(X)	20.8
13898 98	Oil and gas field services, n.s.k. ³.....	.....	(X)	8.9	(X)	(⁴)
WYOMING						
1389- --	Oil and gas field services, n.e.c., total.....	.....	(X)	25.7	(X)	8.7
13898 03	Perforating well casing.....	.....	(X)	1.4	(X)	0.8
13898 04	Well surveying and well logging.....	.....	(X)	3.0	(X)	(NA)
13898 36	Other oil and gas field services.....	.....	(X)	18.9	(X)	7.9
13898 98	Oil and gas field services, n.s.k. ³.....	.....	(X)	2.3	(X)	(⁴)
NEW MEXICO						
1389- --	Oil and gas field services, n.e.c., total.....	.....	(X)	41.8	(X)	16.4
13898 03	Perforating well casing.....	.....	(X)	1.5	(X)	(NA)
13898 04	Well surveying and well logging.....	.....	(X)	4.2	(X)	(NA)
13898 14	Running, cutting, and pulling casing, tubes, or rods.....	.....	(X)	3.3	(X)	2.6
13898 15	Installing production equipment, such as wellhead fittings, pumps, and engines.....	.....	(X)	1.3	(X)	(NA)
13898 25	Cleaning out, bailing out, or swabbing wells.....	1,000 wells...	(NA)	1.1	(NA)	1.8
13898 35	Pumping wells but not operating leases.....	.....	(X)	1.1	(X)	(NA)
13898 36	Other oil and gas field services.....	.....	(X)	26.1	(X)	12.1
13898 98	Oil and gas field services n.s.k. ³.....	.....	(X)	3.3	(X)	(⁴)
PACIFIC						
1389- --	Oil and gas field services, n.e.c., total.....	.....	(X)	119.9	(X)	39.6
13898 03	Perforating well casing.....	.....	(X)	2.9	(X)	1.2
13898 04	Well surveying and well logging.....	.....	(X)	11.2	(X)	4.5
13898 14	Running, cutting, and pulling casing, tubes or rods.....	.....	(X)	2.4	(X)	3.8
13898 25	Cleaning out, bailing out, or swabbing wells.....	1,000 wells...	(NA)	4.9	(NA)	3.8
13898 36	Other oil and gas field services.....	.....	(X)	91.6	(X)	26.3
13898 98	Oil and gas field services n.s.k. ³.....	.....	(X)	7.0	(X)	(⁴)

Note: Detail may not add to totals due to independent rounding.

(X) Not applicable. (NA) Not available. n.s.k. Not specified by kind.

¹In 1967, contractors prepared separate reports for each State (or for each district in California, Louisiana, New Mexico and Texas) in which they performed services during the year. In 1963, in general, contractors prepared one report for all oil and gas field services performed in the United States. These reports were classified on the basis of the principal State in which the service was performed.

²Value of supplies used in performing the service such as cement used in cementing wells are included with the service for 1967. In 1963 between \$20-\$30 million worth of these supplies were shown under value of products bought and resold without further processing.

³This item represents the total value of receipts for establishments that did not report detailed receipts. For 1967 this also includes estimates for establishments that were not mailed report forms.

⁴For 1963, establishments that did not report detailed value of receipts were allocated to the various services. About \$11.9 million of the United States total of \$665 million was allocated.

TABLE 4. Selected Supplies and Purchased Machinery Installed: 1967 and 1963

(See appendix, "Explanation of Terms")

Code	Supplies	Unit of measure	1967		1963	
			Quantity	Cost (million dollars)	Quantity	Cost (million dollars)
	INDUSTRY 1389.--OIL AND GAS FIELD SERVICES, N.E.C.					
	Selected supplies and purchased machinery installed, total ¹ ...		(X)	237.7	(X)	203.0
353011	Purchased machinery installed.....		(X)	69.1	(X)	62.0
	Supplies used:					
331201	Steel mill shapes and forms.....	1,000 short tons	(NA)	5.2	6.8	1.9
970099	All other supplies ¹		(X)	120.1	(X)	74.7
976000	Selected supplies and purchased machinery installed, n.s.k. ²		(X)	43.3	(X)	64.4

Note: Detail may not add to totals due to independent rounding.

(X) Not applicable. (NA) Not available. n.s.k. Not specified by kind.

¹For 1967, supplies which were used in performing a service such as cement used for cementing wells were included under all other supplies. In 1963 these supplies were classed as products bought and resold without further processing.²This item represents the total cost of supplies for establishments that did not report detailed supplies data. For 1967, this also includes estimates for establishments that were not mailed report forms.

SCOPE AND COVERAGE

This report is one of a series presenting preliminary information on industries and products from the 1967 Census of Mineral Industries. The data will be superseded in a final report which in turn will be included in Volume 1, Summary and Industry Statistics, 1967 Census of Mineral Industries. That report will include a comprehensive discussion of the concepts and definitions used in the census.

The census of mineral industries covers each mining establishment of firms in the United States with one or more paid employees. Firms which operate more than one establishment were required to file a separate report for each location. Companies which engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation and the activities were of significant size.

For oil and gas field operation and contract services, reports were required for units somewhat different from the "establishment" reporting unit used for other types of mining. Every concern which operated oil and gas wells, drilled such wells for its own account or for others, performed exploration work for oil or gas, or performed oil and gas field services for others during any part of calendar year 1967 was required to submit a separate report for each State or for each district within Texas, Louisiana, New Mexico, and California (however, information on employment, oil and gas production, and capital expenditures was requested by county). Further, concerns which supplied contract services for others were required to submit a separate report for each State. (In this instance also, information on employment, receipts for services, and capital expenditures was requested by county.)

In the 1967 census, for the first time, approximately 10,000 single-unit establishments with 1 to 4 employees were excused from filing reports. Under special arrangements which safeguarded the confidentiality of both tax and census records, limited data on payrolls, sales, and industry classification from the administrative records of the Social Security Administration and the Internal Revenue Service were made available to the Census Bureau for use in the 1967 censuses of business, manufactures, and mineral industries. Estimates for data other than payrolls and sales for these small establishments were constructed from industry averages. The effect on industry aggregates is slight in most industries. For mining as a whole, they account for less than 1 percent of value added. In industry 1389, these small establishments accounted for approximately 4 percent of value added.

In the 1967 Census of Mineral Industries, data for all single-unit establishments without paid employees were excluded because of the difficulty in

developing a mailing list for these establishments. The exclusion of these establishments has had only a slight effect on industry aggregates for most industries. Data for establishments without employees were included in the 1963, 1958, and 1954 censuses if these establishments reported more than \$500 in one of the following data items: (1) value of shipments and receipts, (2) cost of supplies and purchased machinery, or (3) capital expenditures. In the 1963 census, establishments without paid employees for mining as a whole accounted for approximately 3 percent of value added, while they accounted for less than 2 percent of value added for industry.

As in earlier censuses, a number of small establishments may have been misclassified as to industry. However, such possible misclassifications have no significant effect on the statistics other than the number of establishments. As indicated above, report forms were not mailed to very small establishments (less than 5 employees). The industry classifications for these establishments were assigned on the basis of brief descriptions of the general activity of the establishment. Where the description is incomplete or there are relatively fine lines of demarcation between industries or between mining and nonmining activity, the code assigned to an establishment could differ from that which would have been assigned on the basis of more complete product information. Therefore, the total establishment count should be reviewed as an approximation rather than a precise measurement. The counts of establishments with 20 or more employees are far more reliable than the total number of establishments.

More detailed figures for this industry will appear in the final census reports. Final reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each mineral industry and for each State are being issued. Final industry reports and final area reports will be published during the spring and fall of 1970. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C. 20233.

The 1967 Census of Mineral Industries is the 16th census of mineral establishments in the United States. For 1967, it was conducted jointly with the censuses of manufactures, retail trade, wholesale trade, and selected services under authority of Title 13 of the United States Code. Title 13 specified that a census of mineral industries be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7."

Appendix

EXPLANATION OF TERMS

(For a more complete discussion of these terms and the method of compiling the Census of Mineral Industries, see the Introduction to the 1963 Census of Mineral Industries, Volume I.)

All Employees--All full-time and part-time employees on the payrolls of operating mineral establishments for any part of the pay period ended nearest the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of the corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The number of production workers is the average of those for mid-month payroll periods of March, May, August, and November. The "all employee" number is the average number of production workers plus the number of other employees in mid-March.

Payroll--This item includes all forms of compensation such as salaries, wages, commissions, dismissal pay, all bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' Social Security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of these establishments, if a corporation; it excludes payments to the proprietor or partners, if an unincorporated concern. Respondents were told that in reporting they could follow the definition of payroll used for calculating the Federal withholding tax.

Production, Development, and Exploration Worker Man-Hours--The total man-hours figures represent all man-hours that production, development, and exploration workers worked both on active days during which there was production or development work, and inactive days, when only watchmen, inspectors, repairmen, and other maintenance men were on duty. They include all man-hours worked or paid for at the mining operations, except hours paid for vacations, holidays, or sick leave, when the employee was not at the establishment. Included are actual overtime hours, not straight-time equivalent hours. Man-hours of working proprietors or partners are excluded.

Cost of Supplies, etc., and Purchased Machinery--The 1967 census report forms requested information on supplies and purchased machinery installed; fuels and electric energy used; and contract work done by others for each establishment. These items included charges to both the current and capital accounts. The figures reported were to include items used during 1967 whether purchased, withdrawn from inventories, or received from other establishments of the company. For selected supplies and fuels and for electric energy, both quantity and cost data were requested. The cost data refer to direct charges actually paid or payable (after discounts) for items used during the year. Freight charges and other direct charges incurred by the establishment in acquiring the items are included. Where the company's records did not show actual amounts used, they were asked to approximate use by adding purchases (or receipts) during the year to opening inventory and subtracting closing inventory.

Separate figures were obtained for (a) selected supplies, minerals received for preparation, and purchased machinery installed; (b) electric energy purchased; (c) purchased fuels used for heat, power, or the generation of electricity; (d) contract work done by others; and (e) products bought and resold in the same condition. Supplies and equipment used in mine development, plant expansion, and capitalized repairs, which are chargeable to fixed assets accounts, were included, as were supplies furnished without charge to contractors for use at the mining operation and supplies sold to employees for use at the establishment. No data on such costs as advertising, insurance, telephone, and research and consulting services of other establishments; or on overhead costs, such as depreciation charges, rent, interest, and royalties were included in this item.

Specific Supplies Used and Minerals Prepared--In addition to the total cost of supplies, etc., and purchased machinery which every establishment was required to report, information was also collected on the consumption of major supplies used in mining. These supplies inquiries were restricted to those supplies which were important parts of the cost of production, exploration, and development of a particular industry and for which cost information was available from the firms' records. Information regarding the specific supplies consumed is shown in table 4.

On report forms for almost all mineral industries, except the contract services industries, a uniform inquiry was included on minerals prepared at the reported establish-

ments. Figures were obtained on minerals prepared from three sources: (1) Crude minerals mined at the establishment (quantity); (2) crude minerals received from other establishments of the company or purchased from others (quantity and cost); and (3) crude minerals received for preparation on a custom or toll basis (quantity and estimated value).

Establishments consuming less than a specified amount (usually \$5,000) were not requested to report the cost of a supply separately. Also, the cost of supplies for small establishments for which administrative records were used were imputed as "not specified by kind." (See text for importance of administrative records in the industry.)

Capital Expenditures--In the 1967 census, mining companies were asked to report expenditures made during the year for development and exploration of mineral properties, for new construction, and for machinery purchased at their operations that was chargeable to fixed assets accounts of the mineral establishment and were of a type for which depreciation, depletion, or Office of Minerals Exploration accounts were ordinarily maintained. Capital expenditures during 1967 were to be determined as "additions completed during the year plus construction in progress at the end of the year minus construction in progress at the beginning of the year." Reported capital expenditures were to include work done on contract as well as by the mine forces. Expenditures for machinery and equipment were to include those made for replacement purposes, as well as those for additions to capacity. Excluded from such expenditures totals are costs of maintenance and repairs charged as current operating expense. Also excluded are expenditures for land and mineral rights.

Wherever applicable, separate figures were provided for expenditures for (a) development and exploration of mineral property, (b) preparation plant construction and other construction, (c) new machinery and equipment, and (d) used plant and used equipment acquired from others.

Value of Shipments--The amounts under value of shipments are the values, f.o.b., mine, well, or plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts such as receipts for contract work performed for others, installation and repair, sales of scrap, and sale of products bought and resold without further processing. Included are all items produced by

the establishments and sold, transferred to other plants of the same company, or shipped on consignment.

In the case of multiunit companies, the firm was requested to report the value of products transferred to other establishments of the same company at full economic or commercial value, i.e., include not only the direct costs of production but also a reasonable proportion of "all other costs" (including company overhead) and profit.

Individual Products--In the 1967 Census of Mineral Industries, information on output of about 225 individual mineral product items was collected.

In general, the 1967 and 1963 minerals censuses figures were confined to separate totals for each crude and each prepared mineral. Where significant, separate shipments figures were also obtained for crude minerals going to preparation plants and those going to consumers.

Figures were collected on both quantity and value of shipments. Shipments include commercial shipments and transfers of products to other operations of the same company. For products which are used to a significant extent within the same establishment for power or heat, and for minerals mined and prepared in the same establishment, total production or separate data on production for such uses were collected. Typically, production was also collected for products for which there are usually significant differences between total production and total shipments as a result of stock changes.

For service industries, the amount received or due for services performed during 1967 was collected as a measure of output. For mine operators who also perform services, the amount received for such services was added to the total value of products shipped to determine total value of shipments and receipts for each establishment.

Table 3 of the individual industry reports provides the national and regional total shipments from all industries for each of the products primary to the industries covered in the report.

Shipments and Production--Shipments figures include all products physically shipped from the establishment during 1967, including material withdrawn from stockpiles and products shipped on consignment, whether or not sold in 1967. Prepared material or concentrates include prep-

aration from ores mined at the same establishment, purchased, received from other operations of the same company, or received for milling on a custom or toll basis. For products transferred to other establishments of the same company or prepared on a custom basis, the company was requested to include, in addition to direct costs of production, a reasonable proportion of company overhead and profits.

For industry and industry group totals, some duplication is introduced by the inclusion of materials transferred from one establishment to another for mineral preparation. Wherever value of shipments is shown without further specification, it represents gross shipments.

For years prior to 1954, data on shipments were not collected. Instead, the report forms requested data on the quantity and value of

production. In general, the data for these years were edited to represent net production, excluding duplications due to mining and later preparing the same material in the same industry.

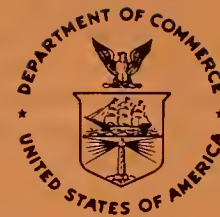
Value Added in Mining--Since the 1954 census, this measure has been computed by subtracting the cost of supplies, etc., and purchased machinery from the sum of value of shipments and receipts and capital expenditures. This statistic avoids the duplication in value of shipments which results from the use of products of some establishments as supplies, energy sources, or materials by others. Moreover, it provides a measure of value added not only in mineral production, but also in the development of mineral properties. For these reasons, it is considered to be the best value measure for comparing the relative economic importance of mining among industries and geographic areas.

THE NATIONAL ECONOMIC GOAL

Sustained maximum growth in a free market economy, without inflation, under conditions of full employment and equal opportunity

THE DEPARTMENT OF COMMERCE

The historic mission of the Department is "to foster, promote and develop the foreign and domestic commerce" of the United States. This has evolved, as a result of legislative and administrative additions, to encompass broadly the responsibility to foster, serve and promote the nation's economic development and technological advancement. The Department seeks to fulfill this mission through these activities:



MISSION AND FUNCTIONS OF THE DEPARTMENT OF COMMERCE

"to foster, serve and promote the nation's economic development and technological advancement"

Participating with other government agencies in the creation of national policy, through the President's Cabinet and its subdivisions.

- Cabinet Committee on Economic Policy
- Urban Affairs Council
- Environmental Quality Council

Promoting progressive business policies and growth.

- Business and Defense Services Administration
- Office of Field Services

Assisting states, communities and individuals toward economic progress.

- Economic Development Administration
- Regional Planning Commissions
- Office of Minority Business Enterprise

Strengthening the international economic position of the United States.

- Bureau of International Commerce
- Office of Foreign Commercial Services
- Office of Foreign Direct Investments
- United States Travel Service
- Maritime Administration

Assuring effective use and growth of the nation's scientific and technical resources.

- Environmental Science Services Administration
- Patent Office
- National Bureau of Standards
- Office of Telecommunications
- Office of State Technical Services

Acquiring, analyzing and disseminating information concerning the nation and the economy to help achieve increased social and economic benefit.

- Bureau of the Census
- Office of Business Economics

NOTE: This schematic is neither an organization chart nor a program outline for budget purposes. It is a general statement of the Department's mission in relation to the national goal of economic development.

GROUP 14



1967 Census of MINERAL INDUSTRIES

INDUSTRY SERIES



U.S. DEPARTMENT OF COMMERCE / Bureau of the Census

preliminary report

MIC67(P)-14A-1

Dimension stone

SIC Code 1411

The Dimension Stone Industry includes establishments primarily engaged in mining or quarrying dimension stone. Also included are establishments primarily engaged in producing rough blocks and slabs. Establishments primarily engaged in mining or quarrying and shaping grindstones, pulpstones, millstones, burrstones, and sharpening stones are classified in industry 1497, Natural Abrasives, Except Sand; and those mining or quarrying dimension soapstone are classified in industry 1496, Talc, Soapstone, and Pyrophyllite. Establishments primarily engaged in dressing (shaping, polishing, or otherwise finishing) rough blocks and slabs are classified in industry 3281, Cut Stone and Stone Products. Nepheline syenite operations are classified in industry 1459, Clay, Ceramic, and Refractory Minerals, Not Elsewhere Classified.

The Dimension Limestone Subindustry represents establishments primarily engaged in mining or quarrying dimension limestone, including related rocks such as dolomite, travertine, and calcareous tufa.

The Dimension Granite Subindustry represents establishments primarily engaged in mining or quarrying dimension granite, including related rocks such as gneiss, syenite, diorite, and gabbro.

The Dimension Stone, N.E.C., Subindustry represents establishments primarily engaged in mining or quarrying dimension stone, not elsewhere classified, such as slate, marble, trap rock (basalt, diabase, and related rocks), sandstone and bluestone, mica schist, light-colored volcanic rocks, argillite, and greenstone.

Establishments classified in industry 1411, Dimension Stone, as interpreted in the 1967 minerals census, represent quarries with or with-

out dressing plants operated as part of the same establishment if the establishment was primarily shipping rough dimension stone. In the 1963, 1958, and 1954 minerals censuses, only those quarries without dressing plants were included in industry 1411, Dimension Stone. This report also includes related 1967, 1963, 1958, and 1954 census of manufactures figures for dimension stone quarries operated in conjunction with dressing plants which represent part of manufacturing industry 3281, Cut Stone and Stone Products. Thus, the dimension stone total figures in this report represent all dimension stone quarries and all dressing plants operated in conjunction with these quarries. Such figures for 1967, 1963, 1958, and 1954 are comparable with most of the statistics for years prior to 1954.

This report includes figures for administrative offices, warehouses, storage facilities, and other auxiliary units which service mining establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions contained in the 1967 edition of the Standard Industrial Classification (SIC) Manual.

In 1967, the value of products shipped and miscellaneous receipts of establishments classified in the Dimension Stone Industry amounted to \$22.7 million, an increase of 15.2 percent compared with 1963. Value added in mining amounted to \$18.5 million in 1967, an increase of 25.0 percent from 1963. Average employment in the industry showed a decrease of 9.1 percent from 1963 to a total of 2.0 thousand employees in 1967.

For an explanation of the terms used in the tables, see appendix at the end of this report.

1967 CENSUS OF MINERAL INDUSTRIES

TABLE 1. General Statistics: 1967 and Earlier Years

(See appendix, "Explanation of Terms")

Year	Establishments		All employees		Production, development, and exploration workers			Value added in mining (million dollars)	Cost of supplies, etc., and purchased machinery installed (million dollars)	Value of shipments and receipts (million dollars)	Capital expenditures (million dollars)	
	Total	With 20 employees or more (number)	Number	Payroll (million dollars)	Number	Man-hours (millions)	Wages (million dollars)					
	(number)		(1,000)		(1,000)							
INDUSTRY 1411.--DIMENSION STONE INDUSTRY AND DIMENSION STONE QUARRIES INCLUDED IN MANUFACTURES												
DIMENSION STONE QUARRIES, TOTAL.....	1967..	374	97	9.2	47.7	8.1	16.4	39.4	80.9	28.2	104.8	4.4
	1963..	551	107	11.0	46.8	9.6	19.5	39.1	70.9	40.3	106.2	5.1
	1958..	557	119	12.3	44.9	10.8	20.7	36.8	67.1	26.0	89.5	3.1
	1954..	555	115	12.3	40.2	11.4	23.2	35.4	61.8	20.0	78.9	2.9
	1929..	912	(NA)	(NA)	(NA)	22.7	(NA)	27.7	55.5	19.8	265.3	(NA)
Dimension stone industry.....	1967..	252	23	2.0	9.6	1.8	3.4	7.8	18.5	5.3	22.7	1.2
	1963..	319	25	2.2	7.8	2.0	3.8	7.0	14.8	6.0	19.7	1.1
	1958..	335	26	2.3	7.1	2.1	3.7	6.1	13.1	4.0	15.9	1.2
	1954..	351	46	3.2	8.6	3.1	5.9	7.9	15.2	4.7	18.9	0.9
	1939 ³ ..	4184	(NA)	2.9	3.0	2.7	(NA)	2.7	5.3	11.1	26.4	(NA)
Dimension stone quarries included in manufactures...	1967..	122	74	7.2	38.1	6.3	13.0	31.6	62.4	22.9	82.1	3.2
	1963..	232	82	8.8	38.9	7.7	15.6	32.1	56.1	34.3	86.4	3.9
	1958..	222	93	9.9	37.8	8.8	17.0	30.7	54.1	22.0	73.6	2.5
	1954..	204	69	9.1	31.6	8.3	17.3	27.4	46.6	15.2	60.0	1.9
Dimension limestone quarries, total.....	1967..	72	21	1.8	11.0	1.7	3.2	9.0	19.1	5.1	23.1	1.2
	1963..	110	22	2.2	10.3	1.9	3.8	8.7	15.2	7.7	21.7	1.2
	1958..	124	28	2.6	10.7	2.3	4.2	8.8	16.4	5.1	20.4	1.1
	1954..	106	29	2.9	10.4	2.7	5.4	9.5	16.7	4.6	20.5	0.8
	1929..	287	(NA)	(NA)	(NA)	5.8	(NA)	7.1	16.3	13.0	219.3	(NA)
Dimension limestone subindustry.....	1967..	47	6	0.5	2.7	0.5	0.9	2.2	5.5	1.5	6.5	0.5
	1963..	61	5	0.3	1.3	0.3	0.6	1.1	2.9	0.8	3.5	0.3
	1958..	68	8	0.6	2.1	0.5	0.9	1.6	3.7	0.9	4.2	0.5
	1954..	65	11	0.5	1.6	0.5	0.9	1.4	2.9	0.9	3.8	0.1
	1939..	440	(NA)	0.7	0.7	0.6	(NA)	0.6	1.4	10.2	21.5	(NA)
Dimension limestone quarries included in manufactures.....	1967..	25	15	1.3	8.3	1.2	2.3	6.8	13.6	3.6	16.6	0.7
	1963..	49	17	1.8	9.0	1.6	3.2	7.6	12.3	6.8	18.2	0.9
	1958..	56	20	2.0	8.6	1.8	3.3	7.2	12.6	4.2	16.2	0.6
	1954..	41	18	2.4	8.8	2.2	4.5	8.1	13.7	3.6	16.7	0.6
Dimension granite quarries, total.....	1967..	101	39	3.1	16.6	2.7	5.5	13.2	28.6	11.5	39.0	1.0
	1963..	137	42	3.5	15.9	3.0	6.1	12.7	26.2	16.0	40.9	1.3
	1958..	137	44	3.9	15.6	3.5	6.7	12.6	24.3	10.8	34.4	0.7
	1954..	143	42	4.0	13.7	3.7	7.4	11.8	21.0	8.4	28.5	0.9
	1929..	320	(NA)	(NA)	(NA)	8.0	(NA)	10.5	20.1	13.5	223.6	(NA)
Dimension granite subindustry.....	1967..	56	9	0.7	3.9	0.6	1.3	3.1	7.2	2.3	9.2	0.3
	1963..	66	10	0.8	3.6	0.8	1.6	3.3	6.5	3.3	9.4	0.4
	1958..	76	9	0.7	2.3	0.7	1.3	2.0	4.1	1.7	5.6	0.2
	1954..	86	15	1.0	2.6	0.9	1.8	2.4	4.6	1.4	5.7	0.2
	1939 ³ ..	493	(NA)	1.2	1.5	1.2	(NA)	1.3	2.7	10.6	23.3	(NA)
Dimension granite quarries included in manufactures.....	1967..	45	30	2.4	12.7	2.1	4.2	10.1	21.4	9.2	29.8	0.7
	1963..	71	32	2.6	12.3	2.2	4.5	9.5	19.7	12.7	31.5	0.9
	1958..	61	35	3.2	13.3	2.8	5.5	10.6	20.2	9.1	28.8	0.5
	1954..	57	27	3.0	11.1	2.7	5.7	9.4	16.4	7.0	22.8	0.6
Dimension stone quarries, n.e.c., total.....	1967..	201	37	4.2	20.1	3.7	7.7	17.3	33.2	11.6	42.6	2.2
	1963..	304	43	5.4	20.6	4.8	9.6	17.6	29.5	16.7	43.6	2.5
	1958..	296	47	5.7	18.5	5.0	9.7	15.3	26.4	10.1	34.6	1.9
	1954..	306	44	5.5	16.2	5.0	10.3	14.1	24.1	7.0	29.9	1.2
	1929..	305	(NA)	(NA)	(NA)	8.9	(NA)	10.1	19.1	13.3	222.4	0.6
Dimension stone, n.e.c., subindustry.	1967..	149	8	0.8	3.0	0.7	1.2	2.6	5.8	1.5	6.9	0.4
	1963..	192	10	1.0	3.0	0.9	1.6	2.6	5.4	1.9	6.8	0.4
	1958..	191	9	1.0	2.7	0.9	1.5	2.4	5.3	1.3	6.1	0.5
	1954..	200	20	1.8	4.4	1.7	3.3	4.1	7.6	2.4	9.5	0.6
	1939..	451	(NA)	1.0	0.8	0.9	(NA)	0.7	1.2	10.3	21.5	(NA)
Dimension stone, n.e.c., quarries. in manufactures.....	1967..	52	29	3.4	17.1	3.0	6.5	14.7	27.4	10.1	35.7	1.8
	1963..	112	33	4.4	17.6	3.9	8.0	15.0	24.1	14.8	36.8	2.1
	1958..	105	38	4.7	15.8	4.1	8.2	12.9	21.2	8.8	28.5	1.4
	1954..	106	24	3.7	11.7	3.4	7.1	10.0	16.5	4.6	20.5	0.6

(NA) Not available.

¹Excludes cost of purchased machinery installed.²Represents value of net shipments and receipts.³Except for number of establishments, figures by kind of stone exclude data for 2 nonproducing dimension granite establishments.⁴Represents number of quarries.

TABLE 2. General Statistics, by Geographic Areas: 1967 and 1963

(See appendix, "Explanation of Terms")

Geographic area	1967											1963	
	Establishments		All employees		Production, development, and exploration workers			Value added in mining (million dollars)	Cost of supplies, etc., and purchased machinery installed (million dollars)	Value of shipments and receipts (million dollars)	Capital expenditures (million dollars)	All employees (1,000)	Value added in mining (million dollars)
	Total	With 20 employees or more	Number	Payroll	Number	Man-hours	Wages						
	(number)	(number)	(1,000)	(million dollars)	(1,000)	(millions)	(million dollars)						
	INDUSTRY 1411.--DIMENSION STONE												
DIMENSION STONE INDUSTRY													
United States, total.	252	23	2.0	9.6	1.8	3.4	7.8	18.5	5.3	22.7	1.2	2.2	14.8
New England.....	22	6	0.4	2.2	0.4	0.7	1.9	4.6	1.4	5.9	0.1	0.4	3.6
Massachusetts.....	3	-	(Z)	0.2	(Z)	(Z)	0.1	0.3	0.2	0.4	(Z)	(NA)	(NA)
Middle Atlantic.....	41	2	0.2	1.0	0.2	0.4	0.9	2.1	0.7	2.6	0.2	0.3	1.5
East North Central.....	56	6	0.6	2.9	0.5	1.0	2.3	5.5	1.3	6.4	0.4	0.4	3.1
Ohio.....	14	-	0.1	0.3	0.1	0.1	0.2	0.5	0.1	0.5	(Z)	(NA)	(NA)
Indiana.....	15	5	0.3	1.9	0.3	0.6	1.5	3.5	0.7	4.1	0.2	0.2	2.0
Wisconsin.....	19	1	0.1	0.6	0.1	0.3	0.6	1.2	0.4	1.5	0.1	0.1	0.7
West North Central.....	24	-	0.1	0.6	0.1	0.2	0.5	1.1	0.4	1.4	0.1	0.2	1.4
Minnesota.....	12	-	0.1	0.3	0.1	0.1	0.2	0.5	0.2	0.6	(Z)	0.1	0.5
Missouri.....	6	-	(Z)	0.2	(Z)	0.1	0.1	0.2	(Z)	0.2	(Z)	(NA)	(NA)
South Atlantic.....	34	5	0.3	1.3	0.3	0.6	1.2	2.5	0.9	3.2	0.2	0.3	1.4
Maryland.....	5	1	(Z)	0.2	(Z)	0.1	0.2	0.4	0.3	0.7	(Z)	(NA)	(NA)
Virginia.....	5	-	(Z)	0.2	(Z)	0.1	0.2	0.4	0.1	0.5	(Z)	(NA)	(NA)
Georgia.....	16	1	0.1	0.5	0.1	0.2	0.5	1.0	0.3	1.2	0.1	0.1	0.6
East South Central.....	18	4	0.2	0.9	0.2	0.3	0.5	1.0	0.2	1.2	(Z)	0.2	1.0
West South Central.....	11	-	0.1	0.2	0.1	0.1	0.1	0.5	0.1	0.6	(Z)	0.2	1.3
Texas.....	7	-	(Z)	0.1	(Z)	(Z)	0.1	0.4	0.1	0.4	(Z)	0.1	0.6
Mountain.....	19	-	(Z)	0.1	(Z)	0.1	0.1	0.4	0.1	0.5	(Z)	0.1	0.4
Colorado.....	11	-	(Z)	0.1	(Z)	(Z)	0.1	0.2	0.1	0.3	(Z)	(NA)	(NA)
Pacific.....	27	-	0.1	0.3	0.1	0.1	0.3	0.8	0.2	1.0	0.1	0.1	1.2
California.....	17	-	(Z)	0.2	(Z)	0.1	0.2	0.3	0.1	0.5	(Z)	0.1	1.0
Dimension limestone subindustry													
United States.....	47	6	0.5	2.7	0.5	0.9	2.2	5.5	1.5	6.5	0.5	0.3	2.9
Northeast.....	7	-	(Z)	0.2	(Z)	0.1	0.2	0.6	0.3	0.8	0.1	(NA)	(NA)
East North Central.....	23	6	0.4	2.2	0.4	0.7	1.8	4.4	1.0	5.1	0.3	0.2	1.9
Wisconsin.....	5	1	0.1	0.3	0.1	0.1	0.3	0.6	0.2	0.7	(Z)	(NA)	(NA)
South.....	9	-	(Z)	0.1	(Z)	0.1	0.1	0.4	0.1	0.5	(Z)	(NA)	(NA)
Dimension granite subindustry													
United States.....	56	9	0.7	3.9	0.6	1.3	3.1	7.2	2.3	9.2	0.3	0.8	6.5
Northeast.....	14	6	0.4	2.1	0.3	0.7	1.8	4.3	1.3	5.6	0.1	0.4	3.5
East North Central (Wisconsin).....	5	-	(Z)	0.2	(Z)	0.1	0.2	0.4	0.1	0.5	(Z)	(NA)	(NA)
South.....	22	3	0.2	1.1	0.2	0.3	0.7	1.6	0.5	2.0	0.2	(NA)	(NA)
Dimension stone, n.e.c., subindustry													
United States, total.	149	8	0.8	3.0	0.7	1.2	2.6	5.8	1.5	6.9	0.4	1.0	5.4
New England.....	9	-	(Z)	0.1	(Z)	0.1	0.1	0.3	0.1	0.4	(Z)	(Z)	0.2
Middle Atlantic.....	33	2	0.2	0.8	0.2	0.3	0.7	1.5	0.4	1.8	0.1	0.2	1.2
East North Central.....	28	-	0.1	0.5	0.1	0.2	0.4	0.7	0.2	0.9	(Z)	(NA)	(NA)
Wisconsin.....	9	-	(Z)	0.1	(Z)	(Z)	0.1	0.2	(Z)	0.2	(Z)	(NA)	(NA)
West North Central.....	5	-	(Z)	0.1	(Z)	(Z)	0.1	0.3	(Z)	0.3	(Z)	(NA)	(NA)
South.....	32	6	0.3	1.1	0.3	0.5	1.0	2.0	0.6	2.5	0.1	(NA)	(NA)
West.....	42	-	0.1	0.3	0.1	0.1	0.3	0.9	0.3	1.1	0.1	(NA)	(NA)

See footnotes at end of table.

TABLE 2. General Statistics, by Geographic Areas: 1967 and 1963—Continued

(See appendix, "Explanation of Terms")

(see appendix, "Explanation of Terms")

Geographic area	1967											1963	
	Establishments		All employees		Production, development, and exploration workers			Value added in mining (million dollars)	Cost of supplies, etc., and purchased machinery installed (million dollars)	Value of shipments and receipts (million dollars)	Capital expenditures (million dollars)	All employees (1,000)	Value added in mining (million dollars)
	Total	With 20 employees or more	Number	Payroll	Number	Man-hours	Wages						
	(number)	(number)	(1,000)	(million dollars)	(1,000)	(millions)	(million dollars)						
INDUSTRY 1411.--DIMENSION STONE--Continued													
Dimension stone quarries included in manufactures													
United States, total.	122	74	7.2	38.1	6.3	13.0	31.6	62.4	22.9	82.1	3.2	8.8	56.1
New England.....	22	13	1.6	9.1	1.4	3.0	7.5	13.5	5.8	18.8	0.6	1.9	12.9
Vermont.....	12	7	1.0	5.2	0.9	2.0	4.7	7.7	3.4	10.8	0.3	(NA)	(NA)
Middle Atlantic.....	22	10	0.7	3.5	0.6	1.3	3.1	4.8	1.5	6.1	0.2	0.7	4.1
New York.....	10	2	0.2	0.8	0.2	0.3	0.7	1.3	0.5	1.7	0.1	0.1	0.7
Pennsylvania.....	12	8	0.5	2.7	0.4	0.9	2.3	3.6	1.0	4.4	0.1	0.6	3.3
East North Central.....	24	12	1.3	7.4	1.1	2.2	6.2	12.9	3.6	15.6	1.0	2.0	13.7
Indiana.....	10	8	0.8	4.8	0.7	1.4	4.0	8.0	2.1	9.7	0.3	1.2	7.6
West North Central.....	12	10	1.1	6.6	0.9	2.0	5.0	11.9	4.1	15.4	0.5	1.1	8.6
Minnesota.....	5	5	0.4	2.8	0.3	0.7	2.0	5.6	1.1	6.7	0.1	0.4	4.0
South Atlantic.....	23	17	1.8	7.6	1.6	3.2	6.5	12.7	4.3	16.3	0.7	1.8	9.6
Georgia.....	17	12	1.1	5.2	1.0	2.1	4.5	8.0	3.3	10.9	0.4	1.2	6.9
East South Central and West South Central.....	9	9	0.5	2.6	0.5	0.9	2.2	4.1	2.6	6.6	0.2	1.0	4.9
Mountain.....	4	-	0.1	0.2	(Z)	0.1	0.2	0.5	0.1	0.6	(Z)	0.1	0.7
Pacific.....	6	3	0.2	1.2	0.2	0.3	0.9	2.0	0.9	2.8	0.1	0.2	1.6
Dimension limestone quarries included in manufactures													
United States, total.	25	15	1.3	8.3	1.2	2.3	6.8	13.6	3.6	16.6	0.7	1.8	12.3
North Central.....	21	12	1.2	7.4	1.0	2.0	6.0	12.3	3.0	14.6	0.7	1.6	10.7
Wisconsin.....	7	1	0.1	1.0	0.1	0.2	0.8	1.9	0.6	2.1	0.3	(NA)	(NA)
South and West.....	4	3	0.2	0.9	0.2	0.3	0.8	1.4	0.7	2.0	(Z)	(NA)	(NA)
Dimension granite quarries included in manufactures													
United States, total.	45	30	2.4	12.7	2.1	4.2	10.1	21.4	9.2	29.8	0.7	2.6	19.7
Northeast.....	11	6	0.7	3.7	0.5	1.0	2.8	5.4	2.4	7.7	0.2	0.7	5.5
North Central.....	7	5	0.4	2.5	0.3	0.8	1.9	5.7	1.4	6.9	0.2	0.4	4.7
West North Central.....	4	4	0.4	2.2	0.3	0.7	1.6	5.3	1.2	6.3	0.1	(NA)	(NA)
South and West.....	27	19	1.4	6.5	1.3	2.4	5.4	10.3	5.4	15.2	0.4	(NA)	(NA)
South Atlantic.....	19	13	1.1	4.7	1.0	1.9	4.0	7.3	3.5	10.5	0.3	1.2	6.8
Dimension stone, n.e.c., quarries included in manufactures													
United States, total.	52	29	3.4	17.1	3.0	6.5	14.7	27.4	10.1	35.7	1.8	4.4	24.1
Northeast.....	33	17	1.7	8.9	1.5	3.3	7.8	12.9	4.9	17.2	0.6	1.9	11.5
Vermont.....	12	7	1.0	5.2	0.9	2.0	4.7	7.7	3.4	10.8	0.3	(NA)	(NA)
New York.....	10	2	0.2	0.8	0.2	0.3	0.7	1.3	0.5	1.7	0.1	0.1	0.7
North Central.....	8	5	0.7	4.0	0.6	1.4	3.2	6.8	3.4	9.5	0.7	1.1	6.9
South.....	6	6	0.9	3.7	0.8	1.6	3.3	6.8	1.6	7.9	0.5	(NA)	(NA)
West.....	5	1	0.1	0.5	0.1	0.1	0.4	0.9	0.2	1.2	(Z)	(NA)	(NA)

Note: Detail may not add to the total because of independent rounding.

(Z) Less than one-half of the unit of measure specified.

(NA) Not available.

**Table 3. Quantity and Value of Shipments by All Producers,
by Geographic Areas: 1967 and 1963**

(Includes quantity and value of products reported not only by establishments classified in this industry, but also by establishments classified in other industries, and shipping these products as "secondary" products. See appendix under "Individual Products")

Product code	Product and geographic areas	Shipments including interplant transfers			
		1967		1963	
		Quantity (1,000 short tons)	Value (million dollars)	Quantity (1,000 short tons)	Value (million dollars)
	DIMENSION STONE				
	United States:				
	All dimension stone (net shipments), total ¹	2,777.2	91.1	3,484.0	91.6
	Rough dimension stone:				
	Net shipments ¹	1,891.8	24.9	2,227.0	22.1
	Gross shipments.....	1,948.9	27.6	2,356.0	25.6
	Dressed dimension stone.....	885.4	66.2	1,257.0	69.5
1412101	Limestone (net shipments), total ¹	1,265.2	20.0	1,531.0	19.9
	Rough dimension stone:				
	Net shipments ¹	997.7	9.0	1,075.0	5.9
	Gross shipments.....	1,005.7	9.1	1,095.0	6.3
	Dressed dimension stone.....	267.6	11.0	456.0	14.0
1413101	Granite (net shipments), total ¹	729.5	37.4	923.0	35.6
	Rough dimension stone:				
	Net shipments ¹	370.7	8.8	489.0	8.2
	Gross shipments.....	398.9	9.8	576.0	9.8
	Dressed dimension stone.....	358.8	28.5	434.0	27.4
1419101	Miscellaneous stone (slate, marble, sandstone, traprock, and miscellaneous stone), net shipments, total ¹	782.4	33.8	1,030.0	36.1
	Rough dimension stone:				
	Net shipments ¹	523.4	7.1	663.0	8.0
	Gross shipments.....	544.3	8.7	685.0	9.5
	Dressed dimension stone.....	259.0	26.7	367.0	28.1
	New England:				
	All dimension stone (net shipments), total ¹	307.4	18.2	390.0	20.6
	Rough dimension stone (net shipments) ¹	184.7	5.2	185.0	4.0
	Dressed dimension stone.....	122.7	13.1	205.0	16.6
1413101	Granite (net shipments), total ¹	258.0	12.3	276.0	11.8
	Rough dimension stone (net shipments) ¹	173.2	5.1	163.0	3.9
	Dressed dimension stone.....	84.8	7.2	113.0	8.0
1412101	Limestone and other stone (net shipments), total ¹	49.3	6.0	114.0	8.8
1419101	Rough dimension stone (net shipments) ¹	11.5	0.1	22.0	0.1
	Dressed dimension stone.....	37.8	6.0	92.0	8.7
	Vermont, all dimension stone (net shipments) ¹	164.5	11.3	219.0	12.2
	Massachusetts, all dimension stone (net shipments) ¹	77.6	5.0	120.0	4.5
	Middle Atlantic:				
	All dimension stone (net shipments), total ¹	274.2	8.0	319.0	7.2
	Rough dimension stone (net shipments) ¹	174.1	2.6	224.0	2.3
	Dressed dimension stone.....	100.0	5.4	95.0	4.9
	New York, all dimension stone (net shipments) ¹	47.7	2.0	70.0	1.3
	Pennsylvania:				
	All dimension stone (net shipments) ¹	226.5	5.9	249.0	5.9
	Rough dimension stone (net shipments) ¹	154.0	2.0	169.0	1.5
	Dressed dimension stone.....	72.5	3.9	80.0	4.3
	East North Central:				
	All dimension stone (net shipments) ¹	1,129.6	20.5	1,113.0	20.7
	Rough dimension stone (net shipments) ¹	908.4	9.6	669.0	6.0
	Dressed dimension stone.....	221.2	10.9	444.0	14.6
1412101	Limestone (net shipments) ¹	911.9	14.3	887.0	14.0
	Rough dimension stone (net shipments) ¹	732.9	7.1	531.0	4.0
	Dressed dimension stone.....	178.9	7.2	356.0	10.0
1413101	Granite and other stone (net shipments) ¹	198.4	6.2	226.0	6.7
1419101	Rough dimension stone (net shipments) ¹	156.2	2.5	138.0	2.0
	Dressed dimension stone.....	42.2	3.7	88.0	4.7
	Ohio, all dimension stone (net shipments) ¹	103.0	3.5	118.0	4.0
	Indiana:				
	All dimension stone (net shipments) ¹	750.9	11.7	793.0	12.2
	Rough dimension stone (net shipments) ¹	610.3	5.8	513.0	3.9
	Dressed dimension stone.....	140.6	5.9	280.0	8.3
	Wisconsin, all dimension stone (net shipments) ¹	164.8	3.7	162.0	3.8

See footnotes at end of table.

**Table 3. Quantity and Value of Shipments by All Producers,
by Geographic Areas: 1967 and 1963—Continued**

(Includes quantity and value of products reported not only by establishments classified in this industry, but also by establishments classified in other industries, and shipping these products as "secondary" products. See appendix under "Individual Products")

Product code	Product and geographic areas	Shipments including interplant transfers			
		1967		1963	
		Quantity (1,000 short tons)	Value (million dollars)	Quantity (1,000 short tons)	Value (million dollars)
	DIMENSION STONE--Continued				
	West North Central:				
	All dimension stone (net shipments) ¹	255.2	13.9	219.0	12.0
	Limestone (net shipments) ¹	103.4	2.2	118.0	2.4
	Granite (net shipments) ¹	117.2	7.3	61.0	6.1
	Other (net shipments) ¹	34.6	4.4	40.0	3.6
	Minnesota, all dimension stone (net shipments) ¹	127.2	6.5	73.0	5.3
	South Atlantic:				
	All dimension stone (net shipments) ¹	344.2	17.2	472.0	14.9
	Rough dimension stone (net shipments) ¹	160.8	3.3	194.0	2.8
	Dressed dimension stone.....	183.4	13.9	278.0	12.1
	Granite (net shipments) ¹	218.4	10.6	308.0	10.6
	Limestone and other stone (net shipments) ¹	125.8	6.6	165.0	4.3
	Virginia, all dimension stone (net shipments) ¹	62.3	2.6	38.0	1.6
	North Carolina, all dimension stone (net shipments) ¹	59.1	4.0	33.0	2.2
	Georgia, all dimension stone (net shipments) ¹	168.1	9.6	338.0	10.4
	East South Central, all dimension stone (net shipments) ¹	120.2	4.9	126.0	6.2
	West South Central:				
	All dimension stone (net shipments) ¹	147.0	4.2	596.0	5.3
	Granite (net shipments) ¹	73.4	2.5	185.0	3.3
	Limestone and other stone (net shipments) ¹	73.5	1.7	411.0	2.0
	Texas, all dimension stone (net shipments) ¹	130.8	3.5	545.0	4.0
	Mountain, all dimension stone (net shipments) ¹	36.2	0.6	57.0	1.4
	Pacific:				
	All dimension stone (net shipments) ¹	163.0	3.5	192.0	3.4
	California, all dimension stone (net shipments) ¹	95.7	2.3	121.0	2.6

Note: Detail may not add to the total because of independent rounding.

¹Represents gross shipments, including interplant transfers, less rough stone received from other establishments for dressing at dressing plants operated in conjunction with a quarry.

Table 4. Selected Supplies, and Purchased Machinery Installed: 1967 and 1963

(See appendix, "Explanation of Terms")

Code	Supplies	Unit of measure	1967		1963	
			Quantity	Cost (million dollars)	Quantity	Cost (million dollars)
	INDUSTRY 1411.--DIMENSION STONE					
	Selected supplies and purchased machinery installed, total...	.....	(X)	3.8	(X)	¹ 4.3
353011	Purchased machinery installed.....	.....	(X)	0.8	(X)	0.8
	Supplies used:					
289211	Explosive materials, except ammonium nitrate.....	1,000 pounds.....	275.2	0.1	(X)	¹ 3.5
289212	Ammonium nitrate.....	...do.....	396.1	(Z)		
289214	Blasting accessories.....	.....	(X)	0.1		
331201	Steel mill shapes and forms.....	.....	(X)	0.2		
300167	Rubber and plastic products, including tires and tubes.....	.....	(X)	(Z)		
970099	All other supplies.....	.....	(X)	2.6	(X)	
976000	Selected supplies and purchased machinery installed, n.s.k. ².....	.....			

Note: Detail may not add to the total because of independent rounding.

n.s.k. Not specified by kind.

(X) Not applicable.

(Z) Less than \$50 thousand.

¹Includes purchases for resale.²This item represents the total cost of supplies for establishments that did not report detailed supplies data. For 1967, this also includes estimates for establishments that were not mailed report forms.

SCOPE AND COVERAGE

This report is one of a series presenting preliminary information on industries and products from the 1967 Census of Mineral Industries. The data will be superseded in a final report which in turn will be included in Volume I, Summary and Industry Statistics, 1967 Census of Mineral Industries. That report will include a comprehensive discussion of the concepts and definitions used in the census.

The census of mineral industries covers each mining establishment of firms in the United States with one or more paid employees. Firms which operate more than one establishment were required to file a separate report for each location. Companies which engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation and the activities were of significant size.

For oil and gas field operation and contract services, reports were required for units somewhat different from the "establishment" reporting unit used for other types of mining. Every concern which operated oil and gas wells, drilled such wells for its own account or for others, performed exploration work for oil or gas, or performed oil and gas field services for others during any part of calendar year 1967 was required to submit a separate report for each State or for each district within Texas, Louisiana, New Mexico, and California (however, information on employment, oil and gas production, and capital expenditures was requested by county). Further, concerns which supplied contract services for others were required to submit a separate report for each State. (In this instance also, information on employment, receipts for services, and capital expenditures was requested by county.)

In the 1967 census, for the first time, approximately 10,000 single-unit establishments with 1 to 4 employees were excused from filing reports. Under special arrangements which safeguarded the confidentiality of both tax and census records, limited data on payrolls, sales, and industry classification from the administrative records of the Social Security Administration and the Internal Revenue Service were made available to the Census Bureau for use in the 1967 censuses of business, manufactures, and mineral industries. Estimates for data other than payrolls and sales for these small establishments were constructed from industry averages. The effect on industry aggregates is slight in most industries. For mining as a whole, they account for less than 1 percent of value added. In industry 1411, these small establishments accounted for approximately 11 percent of value added.

In the 1967 Census of Mineral Industries, data for all single-unit establishments without paid employees were excluded because of the difficulty in

developing a mailing list for these establishments. The exclusion of these establishments has had only a slight effect on industry aggregates for most industries. Data for establishments without employees were included in the 1963, 1958, and 1954 censuses if these establishments reported more than \$500 in one of the following data items: (1) value of shipments and receipts, (2) cost of supplies and purchased machinery, or (3) capital expenditures. In the 1963 census, establishments without paid employees for mining as a whole accounted for approximately 3 percent of value added, while they accounted for approximately 2 percent of value added for industry 1411.

As in earlier censuses, a number of small establishments may have been misclassified as to industry. However, such possible misclassifications have no significant effect on the statistics other than the number of establishments. As indicated above, report forms were not mailed to very small establishments (less than 5 employees). The industry classifications for these establishments were assigned on the basis of brief descriptions of the general activity of the establishment. Where the description is incomplete or there are relatively fine lines of demarcation between industries or between mining and nonmining activity, the code assigned to an establishment could differ from that which would have been assigned on the basis of more complete product information. Therefore, the total establishment count should be reviewed as an approximation rather than a precise measurement. The counts of establishments with 20 or more employees are far more reliable than the total number of establishments.

More detailed figures for this industry will appear in the final census reports. Final reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each mineral industry and for each State are being issued. Final industry reports and final area reports will be published during the spring and fall of 1970. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C. 20233.

The 1967 Census of Mineral Industries is the 16th census of mineral establishments in the United States. For 1967, it was conducted jointly with the censuses of manufactures, retail trade, wholesale trade, and selected services under authority of Title 13 of the United States Code. Title 13 specified that a census of mineral industries be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7."

Appendix

EXPLANATION OF TERMS

(For a more complete discussion of these terms and the method of compiling the Census of Mineral Industries, see the Introduction to the 1963 Census of Mineral Industries, Volume I.)

All Employees--All full-time and part-time employees on the payrolls of operating mineral establishments for any part of the pay period ended nearest the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of the corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The number of production workers is the average of those for mid-month payroll periods of March, May, August, and November. The "all employee" number is the average number of production workers plus the number of other employees in mid-March.

Payroll--This item includes all forms of compensation such as salaries, wages, commissions, dismissal pay, all bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' Social Security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of these establishments, if a corporation; it excludes payments to the proprietor or partners, if an unincorporated concern. Respondents were told that in reporting they could follow the definition of payroll used for calculating the Federal withholding tax.

Production, Development, and Exploration Worker Man-Hours--The total man-hours figures represent all man-hours that production, development, and exploration workers worked both on active days during which there was production or development work, and inactive days, when only watchmen, inspectors, repairmen, and other maintenance men were on duty. They include all man-hours worked or paid for at the mining operations, except hours paid for vacations, holidays, or sick leave, when the employee was not at the establishment. Included are actual overtime hours, not straight-time equivalent hours. Man-hours of working proprietors or partners are excluded.

Cost of Supplies, etc., and Purchased Machinery--The 1967 census report forms requested information on supplies and purchased machinery installed; fuels and electric energy used; and contract work done by others for each establishment. These items included charges to both the current and capital accounts. The figures reported were to include items used during 1967 whether purchased, withdrawn from inventories, or received from other establishments of the company. For selected supplies and fuels and for electric energy, both quantity and cost data were requested. The cost data refer to direct charges actually paid or payable (after discounts) for items used during the year. Freight charges and other direct charges incurred by the establishment in acquiring the items are included. Where the company's records did not show actual amounts used, they were asked to approximate use by adding purchases (or receipts) during the year to opening inventory and subtracting closing inventory.

Separate figures were obtained for (a) selected supplies, minerals received for preparation, and purchased machinery installed; (b) electric energy purchased; (c) purchased fuels used for heat, power, or the generation of electricity; (d) contract work done by others; and (e) products bought and resold in the same condition. Supplies and equipment used in mine development, plant expansion, and capitalized repairs, which are chargeable to fixed assets accounts, were included, as were supplies furnished without charge to contractors for use at the mining operation and supplies sold to employees for use at the establishment. No data on such costs as advertising, insurance, telephone, and research and consulting services of other establishments; or on overhead costs, such as depreciation charges, rent, interest, and royalties were included in this item.

Specific Supplies Used and Minerals Prepared--In addition to the total cost of supplies, etc., and purchased machinery which every establishment was required to report, information was also collected on the consumption of major supplies used in mining. These supplies inquiries were restricted to those supplies which were important parts of the cost of production, exploration, and development of a particular industry and for which cost information was available from the firms' records. Information regarding the specific supplies consumed is shown in table 4.

On report forms for almost all mineral industries, except the contract services industries, a uniform inquiry was included on minerals prepared at the reported establish-

ments. Figures were obtained on minerals prepared from three sources: (1) Crude minerals mined at the establishment (quantity); (2) crude minerals received from other establishments of the company or purchased from others (quantity and cost); and (3) crude minerals received for preparation on a custom or toll basis (quantity and estimated value).

Establishments consuming less than a specified amount (usually \$5,000) were not requested to report the cost of a supply separately. Also, the cost of supplies for small establishments for which administrative records were used were imputed as "not specified by kind." (See text for importance of administrative records in the industry.)

Capital Expenditures--In the 1967 census, mining companies were asked to report expenditures made during the year for development and exploration of mineral properties, for new construction, and for machinery purchased at their operations that was chargeable to fixed assets accounts of the mineral establishment and were of a type for which depreciation, depletion, or Office of Minerals Exploration accounts were ordinarily maintained. Capital expenditures during 1967 were to be determined as "additions completed during the year plus construction in progress at the end of the year minus construction in progress at the beginning of the year." Reported capital expenditures were to include work done on contract as well as by the mine forces. Expenditures for machinery and equipment were to include those made for replacement purposes, as well as those for additions to capacity. Excluded from such expenditures totals are costs of maintenance and repairs charged as current operating expense. Also excluded are expenditures for land and mineral rights.

Wherever applicable, separate figures were provided for expenditures for (a) development and exploration of mineral property, (b) preparation plant construction and other construction, (c) new machinery and equipment, and (d) used plant and used equipment acquired from others.

Value of Shipments--The amounts under value of shipments are the values, f.o.b., mine, well, or plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts such as receipts for contract work performed for others, installation and repair, sales of scrap, and sale of products bought and resold without further processing. Included are all items produced by

the establishments and sold, transferred to other plants of the same company, or shipped on consignment.

In the case of multiunit companies, the firm was requested to report the value of products transferred to other establishments of the same company at full economic or commercial value, i.e., include not only the direct costs of production but also a reasonable proportion of "all other costs" (including company overhead) and profit.

Individual Products--In the 1967 Census of Mineral Industries, information on output of about 225 individual mineral product items was collected.

In general, the 1967 and 1963 minerals censuses figures were confined to separate totals for each crude and each prepared mineral. Where significant, separate shipments figures were also obtained for crude minerals going to preparation plants and those going to consumers.

Figures were collected on both quantity and value of shipments. Shipments include commercial shipments and transfers of products to other operations of the same company. For products which are used to a significant extent within the same establishment for power or heat, and for minerals mined and prepared in the same establishment, total production or separate data on production for such uses were collected. Typically, production was also collected for products for which there are usually significant differences between total production and total shipments as a result of stock changes.

For service industries, the amount received or due for services performed during 1967 was collected as a measure of output. For mine operators who also perform services, the amount received for such services was added to the total value of products shipped to determine total value of shipments and receipts for each establishment.

Table 3 of the individual industry reports provides the national and regional total shipments from all industries for each of the products primary to the industries covered in the report.

Shipments and Production--Shipments figures include all products physically shipped from the establishment during 1967, including material withdrawn from stockpiles and products shipped on consignment, whether or not sold in 1967. Prepared material or concentrates include prep-

aration from ores mined at the same establishment, purchased, received from other operations of the same company, or received for milling on a custom or toll basis. For products transferred to other establishments of the same company or prepared on a custom basis, the company was requested to include, in addition to direct costs of production, a reasonable proportion of company overhead and profits.

For industry and industry group totals, some duplication is introduced by the inclusion of materials transferred from one establishment to another for mineral preparation. Wherever value of shipments is shown without further specification, it represents gross shipments.

For years prior to 1954, data on shipments were not collected. Instead, the report forms requested data on the quantity and value of

production. In general, the data for these years were edited to represent net production, excluding duplications due to mining and later preparing the same material in the same industry.

Value Added in Mining--Since the 1954 census, this measure has been computed by subtracting the cost of supplies, etc., and purchased machinery from the sum of value of shipments and receipts and capital expenditures. This statistic avoids the duplication in value of shipments which results from the use of products of some establishments as supplies, energy sources, or materials by others. Moreover, it provides a measure of value added not only in mineral production, but also in the development of mineral properties. For these reasons, it is considered to be the best value measure for comparing the relative economic importance of mining among industries and geographic areas.

U.S. DEPARTMENT OF COMMERCE
Bureau of the Census
Washington, D.C. 20233

OFFICIAL BUSINESS



POSTAGE AND FEES PAID
U.S. DEPARTMENT OF COMMERCE



1967 Census of MINERAL INDUSTRIES

INDUSTRY SERIES



U.S. DEPARTMENT OF COMMERCE/Bureau of the Census

preliminary report

MIC67(P)-14A-2

Crushed and broken stone

SIC Codes 1422, 1423, and 1429

The Crushed and Broken Limestone Industry represents establishments primarily engaged in mining or quarrying crushed and broken limestone, including related rocks, such as dolomite, cement rock, marl, travertine, and calcareous tufa.

The Crushed and Broken Granite Industry represents establishments primarily engaged in mining or quarrying crushed and broken granite, including related rocks, such as gneiss, syenite, and diorite.

The Crushed and Broken Stone, Not Elsewhere Classified, Industry represents establishments primarily engaged in mining or quarrying crushed and broken stone, not elsewhere classified, such as slate (including slate granules), marble, trap rock (basalt, diabase, and related rocks), sandstone (including quartzite and ganister), and various light-colored volcanic rocks, mica schist, and mixed boulders.

This report includes figures for administrative offices, warehouses, storage facilities, and other auxiliary units which service mining establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions contained in the 1967 edition of the Standard Industrial Classification (SIC) Manual.

Data representing activities at crushed and broken stone quarries which are operated as part of manufacturing locations will be included in the final industry reports for each of the three industries in this report.

In 1967, the value of products shipped and miscellaneous receipts of establishments classified in the Crushed and Broken Limestone Industry amounted to \$666.1 million, an increase of 22.7 percent compared with 1963. Value added in mining amounted to \$491.7 million in 1967, an increase of 20.4 percent from 1963. Average employment in the industry showed a decrease of 1.3 percent from 1963 to a total of 30.7 thousand employees in 1967.

In 1967, the value of products shipped and miscellaneous receipts of establishments classified in the Crushed and Broken Granite Industry amounted to \$113.6 million, an increase of 26.6 percent compared with 1963. Value added in mining amounted to \$79.8 million in 1967, an increase of 29.3 percent from 1963. Average employment in the industry showed an increase of 9.8 percent from 1963 to a total of 4.5 thousand employees in 1967.

In 1967, the value of products shipped and miscellaneous receipts of establishments classified in the Crushed and Broken Stone, Not Elsewhere Classified, Industry amounted to \$179.3 million, an increase of 10.5 percent compared with 1963. Value added in mining amounted to \$128.8 million in 1967, an increase of 15.5 percent from 1963. Average employment in the industry showed a decrease of 7.4 percent from 1963 to a total of 7.5 thousand employees in 1967.

For an explanation of the terms used in the tables, see appendix at the end of this report.

TABLE 1. General Statistics: 1967 and Earlier Years

(See appendix, "Explanation of Terms")

Year	Establishments		All employees		Production, development, and exploration workers			Value added in mining (million dollars)	Cost of supplies, etc., and purchased machinery installed (million dollars)	Value of shipments and receipts (million dollars)	Capital expenditures (million dollars)
	Total	With 20 employ- ees or more	Number	Payroll	Number	Man-hours	Wages				
	(number)	(number)	(1,000)	(million dollars)	(1,000)	(millions)	(million dollars)				
	INDUSTRY 1422.--CRUSHED AND BROKEN LIMESTONE										
1967.....	1,494	504	30.7	197.2	25.8	58.3	153.4	491.7	251.8	666.1	77.4
1963.....	1,612	491	31.1	160.6	26.3	59.4	126.8	408.5	194.0	542.9	59.5
1958 ¹	1,463	487	31.5	143.7	26.5	57.3	111.5	334.8	179.4	459.6	54.5
1954 ²	1,447	388	28.2	107.8	24.9	56.3	90.7	239.6	121.1	328.8	32.0
1939 ³	⁴ 918	(NA)	19.4	20.9	17.7	(NA)	17.1	41.4	⁵ 13.7	⁶ 55.2	(NA)
1929.....	742	(NA)	(NA)	(NA)	16.4	(NA)	19.4	(NA)	⁵ 17.7	⁶ 66.9	(NA)
	INDUSTRY 1423.--CRUSHED AND BROKEN GRANITE										
1967.....	145	79	4.5	26.9	3.9	8.9	22.0	79.8	46.9	113.6	13.0
1963.....	150	65	4.1	19.8	3.4	7.9	16.0	61.7	35.2	89.7	7.2
	INDUSTRY 1429.--CRUSHED AND BROKEN STONE, N.E.C.										
1967.....	400	123	7.5	54.8	6.0	13.1	39.1	128.8	68.1	179.3	17.6
1963.....	494	112	8.1	48.7	6.4	13.6	35.0	111.5	66.7	162.2	16.0
1958.....	385	105	6.9	33.1	5.8	12.5	26.1	81.1	40.4	111.4	10.1
1954 ^{1 2}	363	101	6.7	28.8	5.9	13.7	24.4	76.6	39.8	106.6	9.8

(NA) Not available.

¹Revised in the 1958 census to include figures for establishments primarily engaged in producing "Quartz". Such establishments had been included in the Natural Abrasives, Except Sand, Industry for 1954 only.²Includes a portion of the products purchased for resale without further processing, amounting to less than \$1,350 thousand for all limestone quarries.³Except for number of establishments, figures by kind of stone exclude data for 3 nonproducing operations. The number of quarries of this type reported were: crushed and broken limestone, 2; and crushed and broken stone, n.e.c., 1.⁴Represents number of quarries.⁵Excludes cost of purchased machinery installed.⁶Represents value of net shipments and receipts.

TABLE 2. General Statistics, by Geographic Areas: 1967 and 1963

(See appendix, "Explanation of Terms")

Geographic area	1967											1963	
	Establishments		All employees		Production, development, and exploration workers			Value added in mining	Cost of supplies, etc., and purchased machinery installed	Value of shipments and receipts	Capital expendi- tures	All employees	Value added in mining
	Total (number)	With 20 employ- ees or more (number)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Man-hours (millions)	Wages (million dollars)						
INDUSTRY 1422.--CRUSHED AND BROKEN LIMESTONE													
United States, total.....	1,494	504	30.7	197.2	25.8	58.3	153.6	491.7	251.8	666.1	77.4	31.1	408.5
New England, total.....	22	6	0.3	1.9	0.2	0.6	1.3	3.4	1.9	4.8	0.5	0.3	2.9
Vermont.....	7	2	0.1	0.6	0.1	0.2	0.4	1.1	0.7	1.6	0.2	(NA)	(NA)
Massachusetts.....	5	-	(2)	0.4	(2)	0.1	0.2	0.6	0.3	0.8	0.1	(NA)	(NA)
Middle Atlantic.....	176	75	4.9	35.2	3.9	8.7	25.1	83.9	41.2	114.4	10.7	4.7	69.5
Pennsylvania.....	120	49	3.3	22.4	2.7	5.9	16.2	55.3	30.9	78.8	7.5	2.7	37.1
East North Central.....	397	120	8.5	59.8	7.2	16.0	48.2	160.1	72.2	206.6	25.7	8.7	121.4
Ohio.....	109	38	2.7	18.1	2.3	5.1	14.1	45.9	25.2	60.9	10.2	2.6	34.6
Indiana.....	73	25	1.3	8.9	1.2	2.7	7.4	26.0	11.7	32.9	4.7	(NA)	(NA)
Illinois.....	143	41	2.5	18.7	2.1	4.8	14.9	54.7	20.9	70.2	5.5	2.5	38.5
West North Central.....	366	85	5.0	32.1	4.3	9.6	25.6	73.1	42.7	103.2	12.6	5.4	62.5
Minnesota.....	22	7	0.4	2.9	0.3	0.6	2.1	5.4	2.3	6.9	0.8	(NA)	(NA)
Missouri.....	140	33	1.8	11.2	1.6	3.3	9.3	22.6	16.0	33.7	4.9	2.4	26.5
South Atlantic.....	165	84	4.6	26.1	3.9	8.9	19.9	61.2	36.3	88.8	8.6	4.7	58.6
Maryland.....	16	7	0.5	2.8	0.4	1.0	2.4	9.7	5.3	13.5	1.4	0.4	6.9
Virginia.....	49	29	1.2	5.7	1.0	2.2	4.6	12.0	7.3	17.3	2.0	1.5	14.7
North Carolina.....	14	6	0.3	2.3	0.2	0.5	1.2	5.7	2.7	7.7	0.7	(¹)	3.4
Georgia.....	8	6	0.3	1.7	0.2	0.6	1.2	4.2	2.7	6.5	0.4	0.3	4.1
Florida.....	55	27	1.6	9.4	1.4	3.4	7.1	20.9	13.0	31.5	2.4	¹ 1.8	21.7

See footnotes at end of table.

TABLE 2. General Statistics, by Geographic Areas: 1967 and 1963--Continued

(See appendix, "Explanation of Terms")

Geographic area	1967											1963	
	Establishments		All employees		Production, development, and exploration workers			Value added in mining (million dollars)	Cost of supplies, etc., and purchased machinery installed (million dollars)	Value of shipments and receipts (million dollars)	Capital expenditures (million dollars)	All employees (1,000)	Value added in mining (million dollars)
	Total (number)	With 20 employees or more (number)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Man-hours (millions)	Wages (million dollars)						
INDUSTRY 1422.--CRUSHED AND BROKEN LIMESTONE--Continued													
East South Central.....	203	85	4.2	23.0	3.6	8.3	18.5	64.9	35.2	88.5	11.6	4.3	60.1
Tennessee.....	78	31	1.5	8.3	1.3	3.2	6.7	25.9	13.1	35.5	3.6	(NA)	(NA)
Alabama.....	26	11	0.7	3.9	0.6	1.4	3.3	10.2	7.5	15.3	2.4	(NA)	(NA)
West South Central.....	74	36	2.2	12.4	1.8	4.4	9.3	29.8	14.9	39.2	5.5	2.1	22.5
Texas.....	34	18	1.3	7.9	1.0	2.6	5.3	17.1	9.7	22.9	3.9	1.2	12.4
Mountain.....	38	5	0.4	2.4	0.3	0.7	2.1	5.8	2.1	7.4	0.5	0.3	4.3
Colorado.....	9	3	0.1	0.6	0.1	0.2	0.5	1.8	0.8	2.4	0.1	0.1	1.1
Pacific.....	53	8	0.6	4.2	0.6	1.1	3.6	9.6	5.3	13.2	1.6	0.6	6.6
California.....	28	2	0.3	2.1	0.3	0.5	1.8	4.8	1.9	6.2	0.5	(NA)	(NA)
INDUSTRY 1423.--CRUSHED AND BROKEN GRANITE													
United States, total.....	145	79	4.5	26.9	3.9	8.9	22.0	79.8	46.9	113.6	13.0	4.1	61.7
New England.....	6	4	0.2	1.8	0.1	0.3	1.2	3.0	2.3	5.1	0.2	0.2	1.3
Massachusetts.....	3	3	0.1	1.3	0.1	0.2	0.8	1.9	2.1	3.9	0.1	(NA)	(NA)
Connecticut.....	3	1	0.1	0.5	0.1	0.1	0.4	1.1	0.2	1.2	0.1	(NA)	(NA)
Middle Atlantic.....	7	1	0.1	0.6	0.1	0.2	0.5	1.5	0.6	1.9	0.1	(NA)	(NA)
North Central.....	13	2	0.1	0.8	0.1	0.3	0.7	1.7	0.6	2.0	0.3	(NA)	(NA)
South.....	102	68	3.6	20.2	3.2	7.4	16.7	64.7	40.9	93.9	11.7	3.2	48.5
Virginia.....	21	12	0.5	2.9	0.4	0.9	2.4	10.5	5.2	13.8	1.8	(NA)	(NA)
North Carolina.....	43	25	1.0	5.1	0.9	2.2	4.4	18.3	10.2	25.1	3.4	(NA)	(NA)
Georgia.....	22	19	1.1	6.1	1.0	2.4	5.1	20.2	11.1	27.7	3.7	(NA)	(NA)
West.....	17	4	0.4	3.5	0.3	0.7	2.8	8.9	2.5	10.7	0.7	(NA)	(NA)
California.....	12	4	0.4	3.3	0.3	0.7	2.7	8.6	2.3	10.2	0.7	(NA)	(NA)
INDUSTRY 1429.--CRUSHED AND BROKEN STONE, NOT ELSEWHERE CLASSIFIED													
United States, total.....	400	123	7.5	54.8	6.0	13.1	39.1	128.8	68.1	179.3	17.6	8.1	111.5
New England.....	21	5	0.4	3.9	0.3	0.7	2.6	9.0	3.6	11.4	1.2	0.4	6.7
Massachusetts.....	9	3	0.2	1.4	0.2	0.3	1.0	3.2	1.5	4.3	0.4	0.2	3.3
Middle Atlantic.....	77	34	2.1	17.8	1.7	3.8	12.1	42.6	21.1	58.9	4.8	2.6	38.4
New Jersey.....	15	10	0.7	6.2	0.6	1.3	3.7	16.3	6.2	21.7	1.1	1.2	19.9
East North Central.....	39	9	0.6	4.8	0.3	0.7	1.9	7.4	4.6	11.3	0.7	0.6	9.0
Ohio.....	11	2	0.2	1.5	(Z)	0.2	0.3	1.8	1.1	2.7	0.2	0.1	0.9
Illinois.....	7	2	0.1	0.8	(Z)	0.1	0.3	0.7	0.7	1.3	(Z)	(NA)	(NA)
Wisconsin.....	11	4	0.2	1.2	0.2	0.3	1.0	3.4	2.1	5.2	0.3	(NA)	(NA)
West North Central.....	33	9	0.4	2.8	0.3	0.7	1.9	5.7	2.7	7.7	0.7	0.2	1.4
Missouri.....	15	3	0.2	1.0	0.1	0.3	0.8	2.5	1.0	3.3	0.2	(NA)	(NA)
South Atlantic.....	58	26	1.5	8.6	1.2	2.9	6.4	22.9	16.3	35.1	4.1	(NA)	(NA)
Virginia.....	18	10	0.4	2.6	0.3	0.8	1.7	6.5	4.2	9.5	1.2	0.4	6.9
North Carolina.....	15	6	0.3	1.5	0.3	0.6	1.3	4.2	3.8	7.1	1.0	(NA)	(NA)
Georgia.....	8	7	0.5	2.8	0.4	1.0	2.2	7.1	3.8	9.7	1.2	(NA)	(NA)
East South Central.....	9	4	0.4	2.4	0.4	0.8	1.9	4.8	1.9	6.2	0.5	(NA)	(NA)
Tennessee.....	3	1	(Z)	0.2	(Z)	0.1	0.3	0.3	0.5	0.5	(Z)	(NA)	(NA)
West South Central.....	20	11	0.5	2.8	0.5	1.0	2.5	6.8	3.5	9.5	0.8	(NA)	(NA)
Texas.....	9	6	0.3	1.5	0.3	0.6	1.4	3.2	1.7	4.4	0.5	(NA)	(NA)
Mountain.....	24	3	0.2	1.1	0.2	0.3	0.9	2.6	1.4	3.7	0.3	0.2	2.8
Colorado.....	4	-	(Z)	0.3	(Z)	0.1	0.2	0.3	0.6	0.8	0.1	(NA)	(NA)
Pacific.....	119	22	1.3	10.6	1.1	2.1	8.9	27.1	12.9	35.6	4.5	1.7	22.7
Washington.....	20	3	0.2	1.5	0.2	0.3	1.3	2.9	1.6	4.0	0.5	0.2	3.4
Oregon.....	47	7	0.4	2.6	0.3	0.7	2.2	7.0	3.2	9.4	0.8	0.4	4.0
California.....	48	10	0.6	5.3	0.5	0.9	4.4	13.9	6.4	18.7	1.6	0.7	11.3

Note: Detail may not add to the total because of independent rounding.

- Represents zero. (NA) Not available. (Z) Less than one-half of the unit of measure specified.

Figures for North Carolina are included with those for Florida.

Table 3. Production and Quantity and Value of Shipments by All Producers,
by Geographic Areas: 1967 and 1963

(Includes production and quantity and value of products reported not only by establishments classified in this industry, but also by establishments classified in other industries, and shipping these products as "secondary" products. See appendix under "Individual Products")

Product code	Product and geographic area	1967			1963		
		Net production (1,000 short tons)	Net shipments including interplant transfers		Net production (1,000 short tons)	Net shipments including interplant transfers	
			Quantity (1,000 short tons)	Value (million dollars)		Quantity (1,000 short tons)	Value (million dollars)
14222 01	CRUSHED AND BROKEN LIMESTONE						
	United States.....	548,515.5	436,688.4	647.3	471,375.0	376,256.0	537.0
	New England.....	3,854.3	2,443.7	6.5	4,284.0	3,148.0	5.9
	Maine.....	1,095.7	457.5	1.3	(NA)	(NA)	(NA)
	Vermont.....	924.5	916.1	1.4	(NA)	(NA)	(NA)
	Massachusetts.....	1,571.4	783.9	2.6	1,696.0	1,126.0	1.7
	Middle Atlantic.....	78,702.6	59,944.0	103.3	65,347.0	51,829.0	91.6
	New York.....	22,510.8	17,302.7	31.0	21,961.0	18,665.0	34.0
	New Jersey.....	1,689.9	1,694.0	5.1	(NA)	(NA)	(NA)
	Pennsylvania.....	54,501.9	40,947.3	67.2	41,404.0	31,200.0	52.2
	East North Central.....	167,021.0	145,075.2	201.0	140,758.0	119,723.0	155.5
	Ohio.....	47,669.1	40,800.6	57.9	39,664.0	32,343.0	45.7
	Indiana.....	25,050.1	22,217.6	31.1	(NA)	(NA)	(NA)
	Illinois.....	52,319.6	45,989.2	70.2	40,502.0	35,590.0	49.7
	Michigan.....	29,678.8	23,987.1	25.3	(NA)	(NA)	(NA)
	Wisconsin.....	12,303.5	12,080.7	16.4	10,149.0	9,917.0	11.0
	West North Central.....	82,516.2	66,063.0	99.4	67,371.0	56,045.0	81.5
	Minnesota.....	4,714.8	4,489.8	6.4	3,180.0	3,058.0	4.2
	Iowa.....	31,219.7	26,734.8	38.6	20,118.0	18,251.0	24.9
	Missouri.....	29,150.6	21,413.0	35.1	28,181.0	22,513.0	34.0
	Nebraska.....	4,856.5	3,741.3	5.3	4,114.0	2,924.0	4.8
	Kansas.....	11,765.4	8,945.0	13.0	11,027.0	8,579.0	12.1
	South Atlantic.....	68,938.9	55,347.8	86.1	63,633.0	52,404.0	78.6
	Maryland.....	9,493.1	7,856.6	13.1	(NA)	(NA)	(NA)
	Virginia.....	15,703.4	12,437.0	18.3	16,546.0	14,068.0	20.1
	West Virginia.....	9,681.4	5,917.3	10.5	5,253.0	5,040.0	8.9
	North Carolina.....	6,461.2	5,552.9	9.0	(NA)	(NA)	(NA)
	South Carolina.....	2,000.2	1,102.7	1.9	(NA)	(NA)	(NA)
	Georgia.....	2,994.3	2,618.1	5.5	2,656.0	2,078.0	5.1
	Florida.....	22,605.3	19,863.3	27.8	27,629.0	22,887.0	29.5
	East South Central.....	73,370.7	65,143.6	89.1	63,236.0	56,284.0	75.9
	Kentucky.....	26,016.2	24,971.9	36.7	24,089.0	24,254.0	34.6
	Tennessee.....	30,339.4	27,959.5	34.7	(NA)	(NA)	(NA)
	West South Central.....	43,444.6	29,620.2	36.3	37,554.0	26,797.0	29.7
	Arkansas.....	3,371.0	3,371.0	5.0	(NA)	(NA)	(NA)
	Louisiana.....	5,866.4	-	-	(NA)	(NA)	(NA)
	Oklahoma.....	11,308.2	9,009.5	10.7	10,591.0	8,807.0	9.2
	Texas.....	26,270.0	17,239.7	20.5	22,515.0	14,988.0	16.3
	Mountain.....	9,480.7	4,165.4	8.8	8,744.0	2,898.0	6.7
	Montana.....	1,081.7	418.9	0.7	(NA)	(NA)	(NA)
	Wyoming.....	833.3	611.0	1.3	(NA)	(NA)	(NA)
	Utah.....	1,674.2	948.0	2.3	(NA)	(NA)	(NA)
	Nevada.....	1,085.2	351.9	0.7	(NA)	(NA)	(NA)
	Pacific.....	21,186.2	8,885.5	16.8	20,448.0	7,128.0	11.6
	Washington.....	2,080.0	720.0	1.7	1,708.0	517.0	1.1
	Oregon.....	2,387.3	2,368.0	5.0	1,049.0	835.0	1.1
	California.....	15,580.6	5,238.2	8.9	17,022.0	5,615.0	9.0
	Hawaii.....	1,138.4	559.0	1.1	(NA)	(NA)	(NA)
14232 01	CRUSHED AND BROKEN GRANITE						
	United States.....	67,553.0	64,879.5	110.3	49,629.0	49,629.0	86.1
	Northeast.....	4,214.4	3,824.2	7.0	2,731.0	2,731.0	4.3
	Maine.....	114.8	62.4	0.1	(NA)	(NA)	(NA)
	Massachusetts.....	2,362.2	2,326.8	3.9	1,054.0	870.0	1.7
	Connecticut.....	460.3	435.3	1.0	(NA)	(NA)	(NA)
	East North Central.....	79.3	84.0	0.2	(NA)	(NA)	(NA)
	West North Central.....	1,129.2	1,118.9	1.7	(NA)	(NA)	(NA)
	South.....	53,392.1	51,170.6	89.6	(NA)	(NA)	(NA)
	North Carolina.....	17,108.0	16,297.5	25.1	(NA)	(NA)	(NA)
	South Carolina.....	5,912.6	5,685.1	8.6	7,186.0	7,058.0	10.0
	Georgia.....	17,252.3	17,266.4	26.3	13,510.0	13,829.0	19.9
	West.....	8,737.9	8,681.8	11.8	6,027.0	5,994.0	11.6
	California.....	8,619.2	8,548.4	11.6	5,245.0	5,237.0	10.4

See footnotes at end of table.

**Table 3. Production and Quantity and Value of Shipments by All Producers,
by Geographic Areas: 1967 and 1963 —Continued**

(Includes production and quantity and value of products reported not only by establishments classified in this industry, but also by establishments classified in other industries, and shipping these products as "secondary" products. See appendix under "Individual Products")

Product code	Product and geographic area	1967			1963		
		Net production (1,000 short tons)	Net shipments including interplant transfers		Net production (1,000 short tons)	Net shipments including interplant transfers	
			Quantity (1,000 short tons)	Value (million dollars)		Quantity (1,000 short tons)	Value (million dollars)
14292 01	CRUSHED AND BROKEN STONE, NOT ELSEWHERE CLASSIFIED						
	United States.....	89,939.0	86,718.3	188.4	82,689.0	78,894.0	167.9
	New England.....	9,007.3	8,133.7	14.7	8,388.0	7,565.0	14.0
	New Hampshire.....	644.4	586.4	1.1	(NA)	(NA)	(NA)
	Massachusetts.....	3,456.7	3,068.7	5.4	3,532.0	3,153.0	5.6
	Connecticut.....	4,571.9	4,152.1	7.0	4,363.0	3,920.0	6.8
	Middle Atlantic.....	28,619.4	27,959.7	63.3	24,342.0	22,892.0	54.0
	New York.....	11,335.6	10,646.8	22.4	(NA)	(NA)	(NA)
	New Jersey.....	9,234.2	10,041.7	22.2	(NA)	(NA)	(NA)
	Pennsylvania.....	7,049.6	7,271.3	18.7	(NA)	(NA)	(NA)
	East North Central.....	4,842.9	4,795.9	11.4	(NA)	(NA)	(NA)
	Ohio.....	961.9	972.2	2.4	(NA)	(NA)	(NA)
	Illinois.....	1,135.8	1,165.9	1.7	(NA)	(NA)	(NA)
	Michigan.....	1,152.1	1,075.6	2.2	(NA)	(NA)	(NA)
	Wisconsin.....	1,593.1	1,582.2	5.1	(NA)	(NA)	(NA)
	West North Central.....	5,292.9	5,100.5	8.6	(NA)	(NA)	(NA)
	Minnesota.....	640.6	571.1	1.1	(NA)	(NA)	(NA)
	Missouri.....	2,878.9	2,733.1	4.2	(NA)	(NA)	(NA)
	South Atlantic.....	13,747.6	13,639.4	36.1	14,301.0	14,128.0	34.3
	Maryland.....	4,065.6	4,079.6	8.5	(NA)	(NA)	(NA)
	Virginia.....	3,766.4	3,794.6	8.9	3,726.0	362.2	9.1
	West Virginia.....	467.1	452.4	1.2	(NA)	(NA)	(NA)
	North Carolina.....	3,831.0	3,732.7	7.2	2,903.0	2,980.0	6.0
	Georgia.....	1,596.7	1,538.3	10.3	2,247.0	2,189.0	9.0
	East South Central.....	709.9	694.9	5.1	549.0	534.0	3.0
	West South Central.....	5,956.4	5,706.7	10.2	(NA)	(NA)	(NA)
	Arkansas.....	3,937.6	3,807.6	4.6	(NA)	(NA)	(NA)
	Texas.....	1,503.6	1,434.5	4.7	(NA)	(NA)	(NA)
	Mountain.....	1,506.5	1,405.0	3.5	2,394.0	2,122.0	4.1
	Colorado.....	209.9	114.5	0.6	(NA)	(NA)	(NA)
	Arizona.....	225.7	223.6	1.0	(NA)	(NA)	(NA)
	Pacific.....	20,256.0	19,282.5	35.4	21,812.0	20,852.0	32.4
	Washington.....	2,267.1	2,288.8	4.4	(NA)	(NA)	(NA)
	Oregon.....	4,668.4	4,621.4	9.4	(NA)	(NA)	(NA)
	California.....	11,520.5	10,922.5	18.0	11,762.0	11,691.0	16.7
	Hawaii.....	1,799.9	1,449.9	3.5	(NA)	(NA)	(NA)

Note: Detail may not add to the total because of independent rounding.

- Represents zero. (NA) Not available.

Table 4. Selected Supplies, Minerals Received for Preparation, and Purchased Machinery Installed, by Geographic Areas: 1967 and 1963

(See appendix, "Explanation of Terms")

Code	Supplies	Unit of measure	1967		1963		
			Quantity	Cost (million dollars)	Quantity	Cost (million dollars)	
	INDUSTRY 1422.--CRUSHED AND BROKEN LIMESTONE						
	Selected supplies, minerals received for preparation, and purchased machinery installed, total.....	.....	(X)	180.0	(X)	¹ 144.7
	Minerals received for preparation:						
141101	Rough blocks used to produce dressed stone.....	1,000 short tons.	(Z)	(Z)	(NA)	7.1	
142101	Broken stone received for crushing, screening, or washing.....	do.....	6,394.4	8.1		(NA)	(NA)
144191	Sand and gravel.....	do.....	856.7	1.2			
353011	Purchased machinery installed.....	.....	(X)	58.9	(X)	40.6
	Supplies used:						
289211	Explosive materials, except ammonium nitrate.....	1,000 pounds....	78,606.1	15.3	(X)	¹ 97.0	
289214	Blasting accessories.....	.....	(X)	1.9		
331201	Steel mill shapes and forms.....	.....	(NA)	7.2		
300167	Rubber and plastic products, including tires and tubes.....	.....	(X)	6.0		
970099	All other supplies.....	.....				
976000	Selected supplies, minerals received for preparation, and purchased machinery installed, n.s.k. ².....	.....	(X)	77.9		
	INDUSTRY 1423.--CRUSHED AND BROKEN GRANITE						
	Selected supplies, minerals received for preparation, and purchased machinery installed, total.....	.....	(X)	40.0	(X)	¹ 29.3
	Minerals received for preparation:						
142101	Broken stone received for crushing, screening, or washing.....	1,000 short tons.	253.0	0.2	(NA)	0.1	
144191	Sand and gravel.....	do.....	287.8	0.5	(NA)	(NA)	
353011	Purchased machinery installed.....	.....	(X)	12.6	(X)	6.5
	Supplies used:						
289211	Explosive materials, except ammonium nitrate.....	1,000 pounds....	12,271.2	2.4	(X)	¹ 22.7	
289212	Ammonium nitrate.....	do.....	14,702.6	0.6			
289214	Blasting accessories.....	.....	(X)	0.3		
331201	Steel mill shapes and forms.....	.....	(NA)	2.1		
300167	Rubber and plastic products, including tires and tubes.....	.....	(X)	1.3		
970099	All other supplies.....	.....				
976000	Selected supplies, minerals received for preparation and purchased machinery installed, n.s.k. ².....	.....	(X)	20.0		
	INDUSTRY 1429.--CRUSHED AND BROKEN STONE, NOT ELSEWHERE CLASSIFIED						
	Selected supplies, minerals received for preparation, and purchased machinery installed, total.....	.....	(X)	47.8	(X)	¹ 52.4
	Minerals received for preparation:						
142101	Broken stone received for crushing screening or washing.....	1,000 short tons.	3,206.8	2.9	(NA)	1.9	
144191	Sand and gravel.....	do.....	1,044.2	0.3	(NA)	(NA)	
353011	Purchased machinery installed.....	.....	(X)	13.8	(X)	12.9
	Supplies used:						
289211	Explosive materials, except ammonium nitrate.....	1,000 pounds....	7,838.3	1.6	(X)	¹ 37.6	
289212	Ammonium nitrate.....	do.....	8,852.9	0.4			
289214	Blasting accessories.....	.....	(X)	0.3		
331201	Steel mill shapes and forms.....	.....	(NA)	2.9		
300167	Rubber and plastic products, including tires and tubes.....	.....	(X)	1.1		
970099	All other supplies.....	.....				
976000	Selected supplies, minerals received for preparation, and purchased machinery installed, n.s.k. ².....	.....	(X)	24.6		

Note: Detail may not add to the total because of independent rounding.

(D) Withheld to avoid disclosing figures for individual companies. (NA) Not available. n.s.k. Not specified by kind. (X) Not applicable.

(Z) Less than one-half of the unit of measure specified.

¹Includes purchases for resale.²This item represents the total cost of supplies for establishments that did not report detailed supplies. For 1967, this also includes estimates for establishments that were not mailed report forms.

SCOPE AND COVERAGE

This report is one of a series presenting preliminary information on industries and products from the 1967 Census of Mineral Industries. The data will be superseded in a final report which in turn will be included in Volume I, Summary and Industry Statistics, 1967 Census of Mineral Industries. That report will include a comprehensive discussion of the concepts and definitions used in the census.

The census of mineral industries covers each mining establishment of firms in the United States with one or more paid employees. Firms which operate more than one establishment were required to file a separate report for each location. Companies which engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation and the activities were of significant size.

For oil and gas field operation and contract services, reports were required for units somewhat different from the "establishment" reporting unit used for other types of mining. Every concern which operated oil and gas wells, drilled such wells for its own account or for others, performed exploration work for oil or gas, or performed oil and gas field services for others during any part of calendar year 1967 was required to submit a separate report for each State or for each district within Texas, Louisiana, New Mexico, and California (however, information on employment, oil and gas production, and capital expenditures was requested by county). Further, concerns which supplied contract services for others were required to submit a separate report for each State. (In this instance also, information on employment, receipts for services, and capital expenditures was requested by county.)

In the 1967 census, for the first time, approximately 10,000 single-unit establishments with 1 to 4 employees were excused from filing reports. Under special arrangements which safeguarded the confidentiality of both tax and census records, limited data on payrolls, sales, and industry classification from the administrative records of the Social Security Administration and the Internal Revenue Service were made available to the Census Bureau for use in the 1967 censuses of business, manufactures, and mineral industries. Estimates for data other than payrolls and sales for these small establishments were constructed from industry averages. The effect on industry aggregates is slight in most industries. For mining as a whole, they account for less than 1 percent of value added. In industries 1422, 1423, and 1429, these small establishments accounted for less than 1 percent of value added.

In the 1967 Census of Mineral Industries, data for all single-unit establishments without paid employees were excluded because of the difficulty in

developing a mailing list for these establishments. The exclusion of these establishments has had only a slight effect on industry aggregates for most industries. Data for establishments without employees were included in the 1963, 1958, and 1954 censuses if these establishments reported more than \$500 in one of the following data items; (1) value of shipments and receipts, (2) cost of supplies and purchased machinery, or (3) capital expenditures. In the 1963 census, establishments without paid employees for mining as a whole accounted for approximately 3 percent of value added, while they accounted for less than 1 percent of value added for industries 1422, 1423, and 1429.

As in earlier censuses, a number of small establishments may have been misclassified as to industry. However, such possible misclassifications have not significant effect on the statistics other than the number of establishments. As indicated above, report forms were not mailed to very small establishments (less than 5 employees). The industry classifications for these establishments were assigned on the basis of brief descriptions of the general activity of the establishment. Where the description is incomplete or there are relatively fine lines of demarcation between industries or between mining and non-mining activity, the code assigned to an establishment could differ from that which would have been assigned on the basis of more complete product information. Therefore, the total establishment count should be reviewed as an approximation rather than a precise measurement. The counts of establishments with 20 or more employees are far more reliable than the total number of establishments.

More detailed figures for this industry will appear in the final census reports. Final reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each mineral industry and for each State are being issued. Final industry reports and final area reports will be published during the spring and fall of 1970. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C. 20233.

The 1967 Census of Mineral Industries is the 16th census of mineral establishments in the United States. For 1967, it was conducted jointly with the censuses of manufactures, retail trade, wholesale trade, and selected services under authority of Title 13 of the United States Code. Title 13 specified that a census of mineral industries be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7."

Appendix

EXPLANATION OF TERMS

(For a more complete discussion of these terms and the method of compiling the Census of Mineral Industries, see the Introduction to the 1963 Census of Mineral Industries, Volume I.)

All Employees--All full-time and part-time employees on the payrolls of operating mineral establishments for any part of the pay period ended nearest the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of the corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The number of production workers is the average of those for mid-month payroll periods of March, May, August, and November. The "all employee" number is the average number of production workers plus the number of other employees in mid-March.

Payroll--This item includes all forms of compensation such as salaries, wages, commissions, dismissal pay, all bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' Social Security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of these establishments, if a corporation; it excludes payments to the proprietor or partners, if an unincorporated concern. Respondents were told that in reporting they could follow the definition of payroll used for calculating the Federal withholding tax.

Production, Development, and Exploration Worker Man-Hours--The total man-hours figures represent all man-hours that production, development, and exploration workers worked both on active days during which there was production or development work, and inactive days, when only watchmen, inspectors, repairmen, and other maintenance men were on duty. They include all man-hours worked or paid for at the mining operations, except hours paid for vacations, holidays, or sick leave, when the employee was not at the establishment. Included are actual overtime hours, not straight-time equivalent hours. Man-hours of working proprietors or partners are excluded.

Cost of Supplies, etc., and Purchased Machinery--The 1967 census report forms requested information on supplies and purchased machinery installed; fuels and electric energy used; and contract work done by others for each establishment. These items included charges to both the current and capital accounts. The figures reported were to include items used during 1967 whether purchased, withdrawn from inventories, or received from other establishments of the company. For selected supplies and fuels and for electric energy, both quantity and cost data were requested. The cost data refer to direct charges actually paid or payable (after discounts) for items used during the year. Freight charges and other direct charges incurred by the establishment in acquiring the items are included. Where the company's records did not show actual amounts used, they were asked to approximate use by adding purchases (or receipts) during the year to opening inventory and subtracting closing inventory.

Separate figures were obtained for (a) selected supplies, minerals received for preparation, and purchased machinery installed; (b) electric energy purchased; (c) purchased fuels used for heat, power, or the generation of electricity; (d) contract work done by others; and (e) products bought and resold in the same condition. Supplies and equipment used in mine development, plant expansion, and capitalized repairs, which are chargeable to fixed assets accounts, were included, as were supplies furnished without charge to contractors for use at the mining operation and supplies sold to employees for use at the establishment. No data on such costs as advertising, insurance, telephone, and research and consulting services of other establishments; or on overhead costs, such as depreciation charges, rent, interest, and royalties were included in this item.

Specific Supplies Used and Minerals Prepared--In addition to the total cost of supplies, etc., and purchased machinery whichever establishment was required to report, information was also collected on the consumption of major supplies used in mining. These supplies inquiries were restricted to those supplies which were important parts of the cost of production, exploration, and development of a particular industry and for which cost information was available from the firms' records. Information regarding the specific supplies consumed is shown in table 4.

On report forms for almost all mineral industries, except the contract services industries, a uniform inquiry was included on minerals prepared at the reported establish-

ments. Figures were obtained on minerals prepared from three sources: (1) Crude minerals mined at the establishment (quantity); (2) crude minerals received from other establishments of the company or purchased from others (quantity and cost); and (3) crude minerals received for preparation on a custom or toll basis (quantity and estimated value).

Establishments consuming less than a specified amount (usually \$5,000) were not requested to report the cost of a supply separately. Also, the cost of supplies for small establishments for which administrative records were used were imputed as "not specified by kind." (See text for importance of administrative records in the industry.)

Capital Expenditures--In the 1967 census, mining companies were asked to report expenditures made during the year for development and exploration of mineral properties, for new construction, and for machinery purchased at their operations that was chargeable to fixed assets accounts of the mineral establishment and were of a type for which depreciation, depletion, or Office of Minerals Exploration accounts were ordinarily maintained. Capital expenditures during 1967 were to be determined as "additions completed during the year plus construction in progress at the end of the year minus construction in progress at the beginning of the year." Reported capital expenditures were to include work done on contract as well as by the mine forces. Expenditures for machinery and equipment were to include those made for replacement purposes, as well as those for additions to capacity. Excluded from such expenditures totals are costs of maintenance and repairs charged as current operating expense. Also excluded are expenditures for land and mineral rights.

Wherever applicable, separate figures were provided for expenditures for (a) development and exploration of mineral property, (b) preparation plant construction and other construction, (c) new machinery and equipment, and (d) used plant and used equipment acquired from others.

Value of Shipments--The amounts under value of shipments are the values, f.o.b., mine, well, or plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts such as receipts for contract work performed for others, installation and repair, sales of scrap, and sale of products bought and resold without further processing. Included are all items produced by

the establishments and sold, transferred to other plants of the same company, or shipped on consignment.

In the case of multiunit companies, the firm was requested to report the value of products transferred to other establishments of the same company at full economic or commercial value, i.e., include not only the direct costs of production but also a reasonable proportion of "all other costs" (including company overhead) and profit.

Individual Products--In the 1967 Census of Mineral Industries, information on output of about 225 individual mineral product items was collected.

In general, the 1967 and 1963 minerals censuses figures were confined to separate totals for each crude and each prepared mineral. Where significant, separate shipments figures were also obtained for crude minerals going to preparation plants and those going to consumers.

Figures were collected on both quantity and value of shipments. Shipments include commercial shipments and transfers of products to other operations of the same company. For products which are used to a significant extent within the same establishment for power or heat, and for minerals mined and prepared in the same establishment, total production or separate data on production for such uses were collected. Typically, production was also collected for products for which there are usually significant differences between total production and total shipments as a result of stock changes.

For service industries, the amount received or due for services performed during 1967 was collected as a measure of output. For mine operators who also perform services, the amount received for such services was added to the total value of products shipped to determine total value of shipments and receipts for each establishment.

Table 3 of the individual industry reports provides the national and regional total shipments from all industries for each of the products primary to the industries covered in the report.

Shipments and Production--Shipments figures include all products physically shipped from the establishment during 1967, including material withdrawn from stockpiles and products shipped on consignment, whether or not sold in 1967. Prepared material or concentrates include prep-

aration from ores mined at the same establishment, purchased, received from other operations of the same company, or received for milling on a custom or toll basis. For products transferred to other establishments of the same company or prepared on a custom basis, the company was requested to include, in addition to direct costs of production, a reasonable proportion of company overhead and profits.

For industry and industry group totals, some duplication is introduced by the inclusion of materials transferred from one establishment to another for mineral preparation. Wherever value of shipments is shown without further specification, it represents gross shipments.

For years prior to 1954, data on shipments were not collected. Instead, the report forms requested data on the quantity and value of

production. In general, the data for these years were edited to represent net production, excluding duplications due to mining and later preparing the same material in the same industry.

Value Added in Mining--Since the 1954 census, this measure has been computed by subtracting the cost of supplies, etc., and purchased machinery from the sum of value of shipments and receipts and capital expenditures. This statistic avoids the duplication in value of shipments which results from the use of products of some establishments as supplies, energy sources, or materials by others. Moreover, it provides a measure of value added not only in mineral production, but also in the development of mineral properties. For these reasons, it is considered to be the best value measure for comparing the relative economic importance of mining among industries and geographic areas.

U.S. DEPARTMENT OF COMMERCE
Bureau of the Census
Washington, D.C. 20233

OFFICIAL BUSINESS



POSTAGE AND FEES PAID
U.S. DEPARTMENT OF COMMERCE



1967 Census of MINERAL INDUSTRIES

INDUSTRY SERIES



U.S. DEPARTMENT OF COMMERCE / Bureau of the Census

preliminary report

MIC67(P)-14B

Sand and gravel

SIC Codes 1442 and 1446

The Construction Sand and Gravel Industry includes establishments primarily engaged in operating sand and gravel pits and dredges, and in washing, screening, or otherwise preparing sand and gravel for construction uses.

Census figures for the Construction Sand and Gravel Industry exclude for 1967, as for previous years, data on production by Federal, State, and local governments. According to the Bureau of Mines "government and contractor" operations, principally of this type, produced about 27 percent of all sand and gravel in 1967. Also excluded in the 1967 census are establishments which are primarily performing contract construction operations for which separate sand and gravel reports were not collected.

The Industrial Sand Industry includes establishments primarily engaged in operating sand pits and dredges, and in washing, screening, and otherwise preparing sand for uses other than construction, such as glassmaking, molding, and abrasives.

This report includes figures for administrative offices, warehouses, storage facilities, and other auxiliary units which service mining establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions contained in the 1967 edition of the Standard Industrial Classification (SIC) Manual.

In 1967, the value of products shipped and miscellaneous receipts of establishments classified in the Construction Sand and Gravel Industry amounted to \$636.4 million, an increase of 4.8 percent compared with 1963. Value added in mining amounted to \$490.2 million in 1967, an increase of 6.7 percent from 1963. Average employment in the industry showed a decrease of 14.8 percent from 1963 to a total of 31.0 thousand employees in 1967.

In 1967, the value of products shipped and miscellaneous receipts of establishments classified in the Industrial Sand Industry amounted to \$90.0 million, an increase of 27.7 percent compared with 1963. Value added in mining amounted to \$66.2 million in 1967, an increase of 21.7 percent from 1963. Average employment in the industry showed an increase of 10.8 percent from 1963 to a total of 4.1 thousand employees in 1967.

For an explanation of the terms used in the tables, see appendix at the end of this report.

1967 CENSUS OF MINERAL INDUSTRIES

TABLE 1. General Statistics: 1967 and Earlier Years

(See appendix, "Explanation of Terms")

(see appendix, "Explanation of Terms")

Industry or subindustry, and year	Establishments		All employees		Production, development, and exploration workers			Value added in mining (million dollars)	Cost of supplies, etc., and purchased machinery installed (million dollars)	Value of shipments and receipts (million dollars)	Capital expenditures (million dollars)
	Total	With 20 employees or more	Number	Payroll	Number	Man-hours	Wages				
	(number)	(number)	(1,000)	(million dollars)	(1,000)	(millions)	(million dollars)				
	INDUSTRY 1442.--CONSTRUCTION SAND AND GRAVEL										
1967.....	3,115	432	31.0	205.4	25.4	55.1	159.0	490.2	230.6	636.4	84.3
1963 ¹	4,419	462	36.4	190.9	30.0	64.0	154.5	459.3	217.2	607.5	69.0
	INDUSTRY 1446.--INDUSTRIAL SAND										
1967.....	163	64	4.1	27.3	3.2	6.8	19.2	66.2	33.4	90.0	9.6
1963 ¹	197	50	3.7	21.2	3.0	6.6	15.8	54.4	22.9	70.5	6.8
Glass sand subindustry:											
1967.....	41	27	1.7	11.3	1.3	2.9	7.9	27.1	13.1	36.4	3.9
1963.....	39	23	1.6	9.1	1.2	2.7	6.7	22.6	10.4	29.1	4.0
1958.....	45	19	1.6	7.5	1.3	2.8	5.7	20.7	10.4	28.3	2.7
1954.....	44	20	1.3	5.1	1.1	2.5	4.3	13.7	6.0	18.6	1.1
1939.....	40	(NA)	1.5	2.1	1.3	2.7	1.5	4.6	² 1.5	³ 6.1	(NA)
1929.....	25	(NA)	1.1	1.6	1.0	(NA)	1.3	4.1	1.7	³ 5.4	(NA)
Molding sand subindustry:											
1967.....	71	18	1.1	7.6	0.9	1.9	5.4	17.3	11.6	25.4	3.5
1963.....	93	11	0.9	5.0	0.8	1.5	3.8	12.8	4.7	16.6	0.9
1958.....	124	16	1.3	5.4	1.0	1.9	3.9	12.1	5.3	16.4	1.0
1954.....	131	8	1.1	3.7	1.0	2.0	3.1	9.0	3.6	11.8	0.8
1939.....	146	(NA)	1.2	1.2	1.1	1.8	0.9	3.4	² 0.7	³ 4.1	(NA)
1929.....	90	(NA)	1.2	1.9	1.0	(NA)	1.3	4.0	1.1	³ 4.8	(NA)
Industrial sand, n.e.c., sub-industry:											
1967.....	51	19	1.3	8.4	1.0	2.1	5.9	21.8	8.7	28.2	2.3
1963 ¹	65	16	1.3	7.1	1.0	2.3	5.4	19.0	7.7	24.8	1.9

(NA) Not available. n.e.c. Not elsewhere classified.

¹For years prior to 1963, figures for the Construction Sand and Gravel Industry and the Industrial Sand, N.E.C., Subindustry were combined and separate data are not available.²Excludes the cost of purchased machinery installed.³Represents the value of production.

TABLE 2. General Statistics, by Geographic Areas: 1967 and 1963

(See appendix, "Explanation of Terms")

Geographic area	1967											1963	
	Establishments		All employees		Production, development, and exploration workers			Value added in mining (million dollars)	Cost of supplies, etc., and purchased machinery installed (million dollars)	Value of shipments and receipts (million dollars)	Capital expenditures (million dollars)	All employees (1,000)	Value added in mining (million dollars)
	Total	With 20 employees or more	Number	Payroll	Number	Man-hours	Wages						
	(number)	(number)	(1,000)	(million dollars)	(1,000)	(millions)	(million dollars)						
	INDUSTRY 1442.--CONSTRUCTION SAND AND GRAVEL												
United States, total.	3,115	432	31.0	205.4	25.4	55.1	159.0	490.2	230.6	636.4	84.3	36.4	459.3
New England.....	177	22	1.6	10.3	1.3	2.8	8.3	21.3	10.2	28.7	2.7	1.9	21.3
Maine.....	16	2	0.1	0.5	0.1	0.2	0.4	0.7	0.3	0.9	0.1	(NA)	(NA)
New Hampshire.....	20	2	0.2	0.9	0.1	0.3	0.7	2.2	0.9	2.6	0.5	(NA)	(NA)
Vermont.....	13	2	0.1	0.6	0.1	0.2	0.5	1.2	0.6	1.6	0.2	(NA)	(NA)
Middle Atlantic.....	334	47	3.6	25.5	2.9	6.2	19.2	64.0	25.4	81.8	7.6	3.5	48.4
New Jersey.....	71	10	0.7	4.8	0.5	1.2	3.5	13.1	5.7	16.9	1.9	0.8	11.5
East North Central.....	863	100	7.6	53.0	6.1	13.1	41.7	129.5	54.4	162.8	21.2	7.9	104.3
Ohio.....	263	36	2.3	15.0	1.9	3.9	11.5	38.7	14.5	48.7	4.5	2.3	33.7
Illinois.....	147	21	1.4	10.3	1.2	2.6	8.6	24.5	10.5	29.8	5.2	1.7	18.8
Michigan.....	189	21	1.7	12.0	1.4	2.8	9.3	28.5	12.4	36.6	4.2	1.7	23.2
West North Central.....	513	43	3.6	22.1	3.0	6.4	17.7	47.1	25.1	64.9	7.3	4.4	47.1
Missouri.....	62	7	0.5	2.9	0.4	0.9	2.4	5.8	2.9	7.7	1.0	0.6	7.7
North Dakota.....	26	3	0.3	1.5	0.2	0.5	1.3	3.5	2.3	5.1	0.7	(NA)	(NA)
Nebraska.....	112	8	0.7	3.7	0.5	1.1	2.9	7.8	4.2	11.0	1.0	(NA)	(NA)
South Atlantic.....	230	41	3.1	17.3	2.6	6.4	13.2	43.0	21.3	57.0	7.3	3.7	44.5
Virginia.....	35	9	0.7	3.7	0.6	1.9	3.0	8.2	4.0	10.8	1.4	0.7	7.6
Florida.....	44	5	0.4	2.3	0.3	0.7	1.7	6.0	3.2	8.4	0.8	(NA)	(NA)
East South Central.....	158	32	1.9	10.5	1.6	3.6	7.9	25.8	12.8	33.9	4.7	2.1	21.1
West South Central.....	332	75	4.1	22.8	3.5	8.0	18.2	56.0	34.4	76.7	13.7	4.2	43.7
Texas.....	190	36	2.1	13.1	1.8	4.3	9.8	29.8	22.0	42.4	9.5	2.3	24.6
Mountain.....	170	9	1.2	7.7	1.1	2.0	6.3	17.1	6.8	21.6	2.2	2.4	27.2
Montana.....	20	-	0.1	0.4	0.1	0.1	0.4	1.0	0.5	1.4	0.1	(NA)	(NA)
Idaho.....	11	1	0.1	0.3	(2)	0.1	0.3	1.1	0.2	0.9	0.3	(NA)	(NA)
New Mexico.....	24	1	0.1	0.5	0.1	0.2	0.4	1.4	0.6	1.8	0.2	(NA)	(NA)
Pacific.....	338	63	4.3	36.3	3.3	6.5	26.5	86.3	40.2	108.9	17.7	6.3	101.7
	INDUSTRY 1446.--INDUSTRIAL SAND												
United States, total.	163	64	4.1	27.3	3.2	6.8	19.2	66.2	33.4	90.0	9.6	3.7	54.4
Glass sand sub-industry.....	41	27	1.7	11.3	1.3	2.9	7.9	27.1	13.1	36.4	3.9	1.6	22.6
Molding sand sub-industry.....	71	18	1.1	7.6	0.9	1.9	5.4	17.3	11.6	25.4	3.5	0.9	12.8
Industrial sand, n.e.c., sub-industry.....	51	19	1.3	8.4	1.0	2.1	5.9	21.8	8.7	28.2	2.3	1.3	19.0
New England.....	6	2	0.1	0.5	0.1	0.1	0.4	1.2	0.6	1.5	0.2	0.1	0.7
Middle Atlantic.....	35	15	0.9	6.3	0.8	1.5	4.4	13.3	8.0	18.8	2.6	1.0	13.0
New Jersey.....	18	11	0.6	4.1	0.5	0.9	2.8	9.4	6.4	13.5	2.3	0.6	8.3
East North Central.....	47	17	1.3	9.7	1.0	2.2	6.7	25.1	11.5	33.2	3.4	1.1	19.3
Molding sand sub-industry.....	30	10	0.5	3.8	0.4	0.9	2.7	10.0	6.1	14.3	1.9	0.3	5.2
Ohio.....	17	5	0.3	1.8	0.2	0.5	1.5	4.3	2.1	6.0	0.5	0.2	3.4
Illinois.....	9	6	0.6	4.3	0.4	1.0	3.0	11.1	5.5	15.0	1.6	0.5	8.5
Michigan.....	10	4	0.3	2.3	0.2	0.5	1.6	6.6	2.6	8.5	0.7	0.2	4.8

See footnotes at end of table.

TABLE 2. General Statistics, by Geographic Areas: 1967 and 1963

(See appendix, "Explanation of Terms")

Geographic area	1967											1963	
	Establishments		All employees		Production, development, and exploration workers			Value added in mining (million dollars)	Cost of supplies, etc., and purchased machinery installed (million dollars)	Value of shipments and receipts (million dollars)	Capital expenditures (million dollars)	All employees (1,000)	Value added in mining (million dollars)
	Total	With 20 employees or more	Number	Payroll	Number	Man-hours	Wages						
	(number)	(number)	(1,000)	(million dollars)	(1,000)	(millions)	(million dollars)	(million dollars)	(million dollars)	(million dollars)	(million dollars)	(1,000)	(million dollars)
INDUSTRY 1446.--INDUSTRIAL SAND--Continued													
West North Central.....	10	4	0.2	1.3	0.2	0.4	1.0	3.8	2.0	5.1	0.6	0.2	3.3
Glass sand sub-industry.....	3	2	0.1	0.5	0.1	0.2	0.4	0.8	0.7	1.3	0.2	(NA)	(NA)
Industrial sand, n.e.c., subindustry.	4	2	0.1	0.7	0.1	0.2	0.6	2.5	1.2	3.3	0.4	0.1	2.1
Missouri.....	6	2	0.1	0.7	0.1	0.2	0.6	2.7	1.0	3.4	0.3	0.1	2.1
South Atlantic.....	16	9	0.7	4.4	0.5	1.1	2.8	7.5	4.1	10.4	1.2	0.7	7.3
Virginia.....	5	3	0.1	0.5	0.1	0.2	0.4	0.5	0.5	0.8	0.1	0.1	0.8
East South Central.....	14	2	0.2	0.8	0.1	0.3	0.6	2.2	1.3	3.2	0.3	0.2	2.1
West South Central.....	17	10	0.4	2.1	0.4	0.8	1.7	5.9	3.3	8.5	0.7	0.3	4.0
Industrial sand, n.e.c., subindustry..	11	7	0.3	1.3	0.3	0.5	1.1	3.9	2.0	5.4	0.5	0.2	2.9
Texas.....	10	4	0.2	0.9	0.2	0.3	0.7	2.6	1.4	3.8	0.2	0.1	1.3
Mountain.....	6	1	0.1	0.5	0.1	0.1	0.4	1.3	0.7	1.9	0.1	0.1	1.0
Pacific.....	12	4	0.2	1.6	0.1	0.3	1.1	6.0	2.0	7.5	0.5	0.2	3.8

Note: Detail may not add to the total due to independent rounding.

-Represents zero. (NA) Not available. n.e.c. Not elsewhere classified. (Z) Less than one-half of the unit of measure specified.

**Table 3. Production and Quantity and Value of Shipments by All Producers,
by Geographic Areas: 1967 and 1963**

(Includes production and quantity and value of products reported not only by establishments classified in this industry, but also by establishments classified in other industries, and shipping these products as "secondary" products. See appendix under "Individual Products")

Product code	Product	1967			1963		
		Production (million short tons)	Total shipments, including interplant transfers		Production (million short tons)	Total shipments, including interplant transfers	
			Quantity (million short tons)	Value (million dollars)		Quantity (million short tons)	Value (million dollars)
	UNITED STATES						
1442- --	Construction sand and gravel, total.....	629.0	607.4	668.9	606.2	588.3	629.2
	Construction sand, total.....	207.3	203.0	216.4	271.6	263.3	265.2
14421 01	Run of pit or bank.....	32.7	31.8	28.9	32.9	32.3	26.8
14422 01	Washed, screened, ground, or otherwise prepared.....	174.7	171.2	187.5	238.7	231.0	238.4
	Gravel, total.....	228.6	224.8	271.9	334.7	324.9	364.1
14421 05	Run of pit or bank.....	39.4	38.8	34.4	45.1	44.1	35.2
14422 05	Washed, screened, or otherwise prepared.....	189.1	185.9	237.6	289.6	280.9	328.8
14420 00	Construction sand and gravel, n.s.k.....	1193.1	1179.7	1180.6	(2)	(2)	(2)
14420 01							
	NEW ENGLAND						
1442- --	Construction sand and gravel, total.....	30.5	29.5	31.3	32.3	30.0	30.9
	Construction sand, total.....	8.0	7.8	8.2	16.9	15.6	15.5
14421 01	Run of pit or bank.....	1.9	2.0	1.8	2.0	1.9	1.4
14422 01	Washed, screened, ground, or otherwise prepared.....	6.1	5.8	6.4	14.9	13.7	14.1
	Gravel, total.....	7.7	7.6	9.6	15.5	14.4	15.5
14421 05	Run of pit or bank.....	2.0	2.0	1.8	3.3	3.1	1.9
14422 05	Washed, screened, or otherwise prepared.....	5.7	5.7	7.9	12.2	11.3	13.6
14420 00	Construction sand and gravel, n.s.k.....	114.8	114.1	113.5	(2)	(2)	(2)
14420 01							
	Maine:						
1442- --	Construction sand and gravel.....	1.1	1.1	1.0	(NA)	(NA)	(NA)
	New Hampshire:						
1442- --	Construction sand and gravel, total.....	3.0	2.8	2.9	(NA)	(NA)	(NA)
14421 01	Construction sand.....	0.8	0.7	0.6			
14422 01							
14421 05	Gravel.....	0.5	0.5	0.7			
14422 05							
14420 00	Construction sand and gravel, n.s.k.....	11.7	11.7	11.7			
14420 01							
	Vermont:						
1442- --	Construction sand and gravel.....	2.0	2.0	2.0	(NA)	(NA)	(NA)
	Massachusetts:						
1442- --	Construction sand and gravel, total.....	13.5	12.8	13.6	(NA)	(NA)	(NA)
	Construction sand, total.....	4.3	4.1	4.3			
14421 01	Run of pit or bank.....	0.7	0.7	0.6			
14422 01	Washed, screened, ground, or otherwise prepared.....	3.6	3.4	3.7			
	Gravel, total.....	4.4	4.5	5.6			
14421 05	Run of pit or bank.....	1.2	1.2	1.2			
14422 05	Washed, screened, or otherwise prepared.....	3.2	3.3	4.4			
14420 00	Construction sand and gravel, n.s.k.....	14.8	14.2	13.7			
14420 01							
	Rhode Island:						
1442- --	Construction sand and gravel, total.....	3.9	3.8	4.1	(NA)	(NA)	(NA)
14421 01	Construction sand.....	1.5	1.5	1.4			
14422 01							
14421 05	Gravel.....	1.2	1.2	1.3			
14422 05							
14420 00	Construction sand and gravel, n.s.k.....	11.2	11.2	11.4			
14420 01							
	Connecticut:						
1442- --	Construction sand and gravel.....	7.0	7.0	7.6	(NA)	(NA)	(NA)
	MIDDLE ATLANTIC						
1442- --	Construction sand and gravel, total.....	72.9	70.1	89.0	57.2	54.6	67.0
	Construction sand, total.....	31.2	30.5	37.3	32.2	30.8	36.6
14421 01	Run of pit or bank.....	5.0	4.9	4.6	3.3	3.3	2.9
14422 01	Washed, screened, ground, or otherwise prepared.....	26.2	25.6	32.7	28.9	27.5	33.7
	Gravel, total.....	19.4	19.0	25.3	25.0	23.8	30.4
14421 05	Run of pit or bank.....	5.2	5.1	4.4	3.9	3.8	2.8
14422 05	Washed, screened, or otherwise prepared.....	14.2	13.9	20.9	21.1	20.0	27.5
14420 00	Construction sand and gravel, n.s.k.....	122.4	120.6	126.4	(2)	(2)	(2)
14420 01							

See footnotes at end of table.

**Table 3. Production and Quantity and Value of Shipments by All Producers,
by Geographic Areas: 1967 and 1963--Continued**

(Includes production and quantity and value of products reported not only by establishments classified in this industry, but also by establishments classified in other industries, and shipping these products as "secondary" products. See appendix under "Individual Products")

Product code	Product	1967			1963		
		Production (million short tons)	Total shipments, including interplant transfers		Production (million short tons)	Total shipments, including interplant transfers	
			Quantity (million short tons)	Value (million dollars)		Quantity (million short tons)	Value (million dollars)
	MIDDLE ATLANTIC--Continued						
	New York:						
1442- --	Construction sand and gravel, total.....	34.1	31.8	38.1	29.1	26.9	30.9
	Construction sand, total.....	10.9	10.5	11.6	16.7	15.7	17.9
14421 01	Run of pit or bank.....	2.5	2.5	2.0	1.6	1.6	1.0
14422 01	Washed, screened, ground, or otherwise prepared.....	8.4	8.0	9.6	15.2	14.2	16.8
	Gravel, total.....	7.4	7.2	8.9	12.4	11.1	13.0
14421 05	Run of pit or bank.....	3.0	3.0	2.4	3.0	3.0	2.0
14422 05	Washed, screened, or otherwise prepared.....	4.4	4.2	6.5	9.4	8.2	11.1
14420 00 } 14420 01 }	Construction sand and gravel, n.s.k.....	¹ 15.8	¹ 14.1	¹ 17.7	(²)	(²)	(²)
	New Jersey:						
1442- --	Construction sand and gravel, total.....	15.8	15.6	18.3	13.3	13.3	15.7
	Construction sand, total.....	8.7	8.6	9.1	7.4	7.2	7.7
14421 01	Run of pit or bank.....	1.9	1.9	1.9	1.4	1.4	1.4
14422 01	Washed, screened, ground, or otherwise prepared.....	6.8	6.7	7.2	6.0	5.8	6.3
	Gravel, total.....	4.7	4.6	6.0	5.9	6.1	8.0
14421 05	Run of pit or bank.....	1.4	1.3	1.4	0.6	0.6	0.7
14422 05	Washed, screened, or otherwise prepared.....	3.4	3.3	4.7	5.4	5.5	7.4
14420 00 } 14420 01 }	Construction sand and gravel, n.s.k.....	¹ 2.4	¹ 2.3	¹ 3.2	(²)	(²)	(²)
	Pennsylvania:						
1442- --	Construction sand and gravel, total.....	23.0	22.7	32.6	14.8	14.4	20.4
	Construction sand.....	11.6	11.4	16.6	8.1	7.8	11.0
14422 01	Washed, screened, ground, or otherwise prepared.....	11.0	10.8	15.9	7.7	7.5	10.6
	Gravel.....	7.2	7.1	10.4	6.7	6.6	9.3
14422 05	Washed, screened, or otherwise prepared.....	6.5	6.4	9.7	6.4	6.3	9.1
14420 00 } 14420 01 }	Construction sand and gravel, n.s.k.....	¹ 4.2	¹ 4.2	¹ 5.5	(²)	(²)	(²)
	EAST NORTH CENTRAL						
1442- --	Construction sand and gravel, total.....	171.7	167.3	165.6	140.1	138.5	131.5
	Construction sand, total.....	48.8	48.0	48.1	59.7	59.2	52.1
14421 01	Run of pit or bank.....	8.2	8.1	7.1	7.7	7.7	5.3
14422 01	Washed, screened, ground, or otherwise prepared.....	40.6	39.8	41.0	52.0	51.6	46.8
	Gravel, total.....	71.0	69.5	75.6	80.4	79.3	79.4
14421 05	Run of pit or bank.....	12.2	12.1	10.3	11.7	11.6	7.8
14422 05	Washed, screened, or otherwise prepared.....	58.8	57.5	65.3	68.7	67.7	71.5
14420 00 } 14420 01 }	Construction sand and gravel, n.s.k.....	¹ 51.9	¹ 49.8	¹ 41.8	(²)	(²)	(²)
	Ohio:						
1442- --	Construction sand and gravel, total.....	47.1	45.7	50.0	36.8	36.2	39.8
	Construction sand, total.....	14.9	14.5	16.7	15.7	15.5	15.1
14421 01	Run of pit or bank.....	1.6	1.6	1.7	2.4	2.4	1.3
14422 01	Washed, screened, ground, or otherwise prepared.....	13.3	12.8	15.0	13.3	13.1	13.7
	Gravel, total.....	19.7	19.0	22.9	21.0	20.6	24.7
14421 05	Run of pit or bank.....	2.1	2.1	2.2	2.8	2.8	1.9
14422 05	Washed, screened, or otherwise prepared.....	17.6	16.9	20.8	18.2	17.9	22.8
14420 00 } 14420 01 }	Construction sand and gravel, n.s.k.....	¹ 12.5	¹ 12.2	¹ 10.4	(²)	(²)	(²)
	Indiana:						
1442- --	Construction sand and gravel, total.....	26.1	25.8	25.4	22.8	22.8	20.4
	Construction sand.....	8.2	8.2	7.3	10.8	10.9	8.9
14422 01	Washed, screened, ground, or otherwise prepared.....	7.6	7.6	6.9	10.1	10.1	8.4
	Gravel.....	10.9	10.8	12.0	11.9	11.9	11.5
14422 05	Washed, screened, or otherwise prepared.....	9.6	9.6	11.0	10.3	10.3	10.5
14420 00 } 14420 01 }	Construction sand and gravel, n.s.k.....	¹ 7.0	¹ 6.8	¹ 6.1	(²)	(²)	(²)

See footnotes at end of table.

**Table 3. Production and Quantity and Value of Shipments by All Producers,
by Geographic Areas: 1967 and 1963--Continued**

(Includes production and quantity and value of products reported not only by establishments classified in this industry, but also by establishments classified in other industries, and shipping these products as "secondary" products. See appendix under "Individual Products")

Product code	Product	1967			1963		
		Production (million short tons)	Total shipments, including interplant transfers		Production (million short tons)	Total shipments, including interplant transfers	
			Quantity (million short tons)	Value (million dollars)		Quantity (million short tons)	Value (million dollars)
EAST NORTH CENTRAL--Continued							
Illinois:							
1442- --	Construction sand and gravel, total.....	33.1	32.2	29.6	26.7	26.1	23.2
	Construction sand, total.....	11.0	10.7	10.7	12.5	12.3	10.1
14421 01	Run of pit or bank.....	2.2	2.1	2.1	1.2	1.2	0.7
14422 01	Washed, screened, ground, or otherwise prepared.....	8.8	8.6	8.6	11.4	11.1	9.3
	Gravel, total.....	11.6	11.5	11.1	14.2	13.9	13.2
14421 05	Run of pit or bank.....	2.3	2.2	2.2	1.5	1.5	1.0
14422 05	Washed, screened, or otherwise prepared.....	9.3	9.3	8.9	12.7	12.4	12.1
14420 00	Construction sand and gravel, n.s.k.....	110.5	119.9	117.8	(2)	(2)	(2)
14420 01							
Michigan:							
1442- --	Construction sand and gravel, total.....	40.6	39.7	37.5	33.2	33.2	30.4
	Construction sand, total.....	9.8	9.8	8.9	14.4	14.4	12.3
14421 01	Run of pit or bank.....	2.3	2.3	1.6	2.2	2.2	1.8
14422 01	Washed, screened, ground, or otherwise prepared.....	7.6	7.5	7.3	12.2	12.2	10.5
	Gravel, total.....	17.2	17.1	17.8	18.8	18.7	18.2
14421 05	Run of pit or bank.....	4.0	3.9	3.0	1.8	1.7	1.5
14422 05	Washed, screened, or otherwise prepared.....	13.2	13.1	14.9	17.1	17.0	16.7
14420 00	Construction sand and gravel, n.s.k.....	113.6	112.8	110.8	(2)	(2)	(2)
14420 01							
Wisconsin:							
1442- --	Construction sand and gravel, total.....	24.8	23.9	23.0	20.6	20.3	17.6
	Construction sand, total.....	4.9	4.8	4.5	6.2	6.1	5.8
14421 01	Run of pit or bank.....	1.5	1.5	1.2	1.2	1.1	1.0
14422 01	Washed, screened, ground, or otherwise prepared.....	3.4	3.3	3.3	5.1	5.0	4.8
	Gravel, total.....	11.6	11.1	11.8	14.4	14.1	11.8
14421 05	Run of pit or bank.....	2.6	2.5	2.1	4.0	4.0	2.4
14422 05	Washed, screened, or otherwise prepared.....	9.0	8.6	9.7	10.4	10.1	9.4
14420 00	Construction sand and gravel, n.s.k.....	118.3	118.0	116.7	(2)	(2)	(2)
14420 01							
WEST NORTH CENTRAL							
1442- --	Construction sand and gravel, total.....	69.8	66.7	65.4	69.1	67.7	63.7
	Construction sand, total.....	22.2	21.4	20.9	28.0	27.3	23.6
14421 01	Run of pit or bank.....	4.6	4.3	4.1	2.6	2.9	1.8
14422 01	Washed, screened, ground, or otherwise prepared.....	17.6	17.0	16.7	25.4	24.4	21.8
	Gravel, total.....	22.6	21.6	24.6	41.1	40.4	40.1
14421 05	Run of pit or bank.....	5.8	5.6	4.4	4.8	4.8	3.4
14422 05	Washed, screened, or otherwise prepared.....	16.7	16.0	20.2	36.3	35.6	36.7
14420 00	Construction sand and gravel, n.s.k.....	125.1	123.7	119.9	(2)	(2)	(2)
14420 01							
Minnesota:							
1442- --	Construction sand and gravel, total.....	20.7	19.8	18.7	(NA)	(NA)	(NA)
	Construction sand.....	6.1	5.7	4.8			
14422 01	Washed, screened, ground, or otherwise prepared.....	5.1	4.7	4.1			
	Gravel, total.....	9.2	8.9	9.0			
14421 05	Run of pit or bank.....	2.2	2.2	1.6			
14422 05	Washed, screened, or otherwise prepared.....	7.0	6.7	7.4			
14420 00	Construction sand and gravel, n.s.k.....	115.4	115.3	115.0	(NA)	(NA)	(NA)
14420 01							
Iowa:							
1442- --	Construction sand and gravel, total.....	13.3	12.4	13.7	(NA)	(NA)	(NA)
	Construction sand.....	6.1	5.9	6.3			
14422 01	Washed, screened, ground, or otherwise prepared.....	5.2	5.1	5.5			
	Gravel.....	3.0	2.9	4.3			
14422 05	Washed, screened, or otherwise prepared.....	2.3	2.3	3.7			
14420 00	Construction sand and gravel, n.s.k.....	114.2	113.6	113.2	(NA)	(NA)	(NA)
14420 01							

See footnotes at end of table.

**Table 3. Production and Quantity and Value of Shipments by All Producers,
by Geographic Areas: 1967 and 1963--Continued**

(Includes production and quantity and value of products reported not only by establishments classified in this industry, but also by establishments classified in other industries, and shipping these products as "secondary" products. See appendix under "Individual Products")

Product code	Product	1967			1963		
		Production (million short tons)	Total shipments, including interplant transfers		Production (million short tons)	Total shipments, including interplant transfers	
			Quantity (million short tons)	Value (million dollars)		Quantity (million short tons)	Value (million dollars)
WEST NORTH CENTRAL--Continued							
1442- --	Missouri:						
	Construction sand and gravel, total.....	8.6	8.0	8.1	}	(NA)	(NA)
	Construction sand.....	2.3	2.2	2.5			
	Gravel.....	2.1	1.8	2.4			
14420 00 } 14420 01 }	Construction sand and gravel, n.s.k.....	14.2	14.0	13.3			
1442- --	North Dakota:						
	Construction sand and gravel.....	5.1	5.0	4.9	(NA)	(NA)	(NA)
1442- --	South Dakota:						
	Construction sand and gravel.....	2.7	2.3	2.6	(NA)	(NA)	(NA)
1442- --	Nebraska:						
	Construction sand and gravel, total.....	11.8	11.6	10.2	}	(NA)	(NA)
14421 01 } 14422 01 }	Construction sand, total.....	2.8	2.8	2.3			
14421 05 } 14422 05 }	Gravel.....	3.9	3.8	4.2			
14420 00 } 14420 01 }	Construction sand and gravel, n.s.k.....	15.1	15.0	13.7			
1442- --	Kansas:						
	Construction sand and gravel, total.....	7.7	7.5	7.1	}	(NA)	(NA)
	Construction sand, total.....	3.9	3.9	3.7			
14421 01 } 14422 01 }	Run of pit or bank.....	1.3	1.3	1.2			
	Washed, screened, ground, or otherwise prepared.....	2.6	2.6	2.5			
	Gravel.....	1.3	1.3	1.5			
14422 05 }	Washed, screened, or otherwise prepared.....	1.0	1.0	1.3			
14420 00 } 14420 01 }	Construction sand and gravel, n.s.k.....	12.5	12.3	11.9			
SOUTH ATLANTIC							
1442- --	Construction sand and gravel, total.....	56.9	55.4	64.3	55.7	54.2	61.4
	Construction sand, total.....	28.0	27.4	27.2	31.9	31.1	32.3
14421 01 } 14422 01 }	Run of pit or bank.....	5.2	5.1	4.4	6.1	6.0	5.5
	Washed, screened, or otherwise prepared.....	22.8	22.4	22.9	25.8	25.1	26.7
	Gravel, total.....	12.3	12.1	19.9	23.8	23.1	29.1
14421 05 } 14422 05 }	Run of pit or bank.....	3.2	3.2	3.5	4.4	4.1	3.4
	Washed, screened, or otherwise prepared.....	9.1	8.9	16.5	19.4	19.0	25.7
14420 00 } 14420 01 }	Construction sand and gravel, n.s.k.....	116.7	115.9	117.1	(2)	(2)	(2)
1442- --	Delaware:						
	Construction sand and gravel.....	1.9	1.9	1.6	(NA)	(NA)	(NA)
1442- --	Maryland:						
	Construction sand and gravel, total.....	14.2	13.3	16.5	}	(NA)	(NA)
	Construction sand.....	5.0	4.8	5.7			
	Gravel, total.....	3.1	3.0	3.8			
14421 05 } 14422 05 }	Run of pit or bank.....	1.6	1.6	1.5			
	Washed, screened, or otherwise prepared.....	1.5	1.4	2.4			
14420 00 } 14420 01 }	Construction sand and gravel, n.s.k.....	16.0	15.6	17.1			
1442- --	Virginia:						
	Construction sand and gravel, total.....	9.6	9.1	11.1	}	(NA)	(NA)
	Construction sand.....	1.7	1.6	2.3			
	Gravel.....	3.0	2.9	4.9			
14422 05 }	Washed, screened, or otherwise prepared.....	2.6	2.5	4.3			
14420 00 } 14420 01 }	Construction sand and gravel, n.s.k.....	14.9	14.6	14.0			
1442- --	North Carolina:						
	Construction sand and gravel.....	6.6	6.6	7.8	(NA)	(NA)	(NA)

See footnotes at end of table.

**Table 3. Production and Quantity and Value of Shipments by All Producers,
by Geographic Areas: 1967 and 1963--Continued**

(Includes production and quantity and value of products reported not only by establishments classified in this industry, but also by establishments classified in other industries, and shipping these products as "secondary" products. See appendix under "Individual Products")

Product code	Product	1967			1963					
		Production (million short tons)	Total shipments, including interplant transfers		Production (million short tons)	Total shipments, including interplant transfers				
			Quantity (million short tons)	Value (million dollars)		Quantity (million short tons)	Value (million dollars)			
	SOUTH ATLANTIC--Continued									
1442- --	Georgia:									
	Construction sand and gravel.....	6.2	6.1	6.0	(NA)	(NA)	(NA)			
1442- --	Florida:									
	Construction sand and gravel.....	10.7	10.5	9.9	}	(NA)	(NA)			
	Construction sand, total.....	8.5	8.4	7.7						
14421 01	Run of pit or bank.....	2.8	2.7	2.3						
14422 01	Washed, screened, ground, or otherwise prepared.....	5.7	5.7	5.4						
	EAST SOUTH CENTRAL									
1442- --	Construction sand and gravel, total.....	31.7	30.6	36.5	26.4	26.0	29.8			
	Construction sand, total.....	9.7	9.5	11.6	13.0	12.8	14.0			
14421 01	Run of pit or bank.....	1.2	1.1	1.2	1.7	1.7	1.6			
14422 01	Washed, screened, ground, or otherwise prepared.....	8.5	8.3	10.3	11.2	11.1	12.4			
	Gravel, total.....	12.7	12.5	14.2	13.4	13.2	15.8			
14421 05	Run of pit or bank.....	3.7	3.6	3.0	2.4	2.5	1.9			
14422 05	Washed, screened, or otherwise prepared.....	9.0	8.9	11.2	11.0	10.7	14.0			
14420 00	Construction sand and gravel, n.s.k.....	19.4	18.6	10.7	(2)	(2)	(2)			
14420 01										
1442- --	Kentucky:									
	Construction sand and gravel, total.....	8.2	7.9	9.0	}	(NA)	(NA)			
14421 01	Construction sand.....	4.1	3.9	4.6						
14422 01										
14421 05	Gravel.....	1.8	1.8	2.2						
14422 05										
14420 00	Construction sand and gravel, n.s.k.....	12.3	12.2	12.2	}	(NA)	(NA)			
14420 01										
1442- --	Tennessee:									
	Construction sand and gravel, total.....	7.8	7.3	10.8	}	(NA)	(NA)			
14421 01	Construction sand.....	2.3	2.2	3.2						
14422 01										
14421 05	Gravel.....	3.0	2.8	3.5						
14422 05										
14420 00	Construction sand and gravel, n.s.k.....	12.5	12.3	14.1	}	(NA)	(NA)			
14420 01										
1442- --	Alabama:									
	Construction sand and gravel, total.....	7.1	6.7	7.2	}	(NA)	(NA)			
14421 01	Construction sand.....	1.7	1.7	1.9						
14422 01										
14421 05	Gravel.....	2.3	2.3	2.4						
14422 05										
14420 00	Construction sand and gravel, n.s.k.....	13.2	12.8	12.9	}	(NA)	(NA)			
14420 01										
1442- --	Mississippi:									
	Construction sand and gravel, total.....	8.7	8.7	9.4	}	(NA)	(NA)			
14421 01	Construction sand.....	1.7	1.6	1.8						
14422 01										
14421 05	Gravel, total.....	5.7	5.7	6.1						
14422 05										
14422 05	Run of pit or bank.....	2.2	2.2	1.6	}	(NA)	(NA)			
14422 05	Washed, screened, or otherwise prepared.....	3.5	3.5	4.5						
14420 00	Construction sand and gravel, n.s.k.....	11.3	11.3	11.5	}	(NA)	(NA)			
14420 01										
	WEST SOUTH CENTRAL									
1442- --	Construction sand and gravel, total.....	66.2	64.5	78.0	55.4	55.0	64.4			
	Construction sand, total.....	21.9	21.1	22.0	27.4	27.0	27.7			
14421 01	Run of pit or bank.....	2.4	2.1	1.5	3.4	3.3	2.5			
14422 01	Washed, screened, ground, or otherwise prepared.....	19.5	19.0	20.5	24.1	23.7	25.2			
	Gravel, total.....	28.5	28.2	41.2	27.9	28.0	36.8			
14421 05	Run of pit or bank.....	2.2	2.2	2.2	3.2	3.5	3.5			
14422 05	Washed, screened, or otherwise prepared.....	26.3	26.0	38.9	24.8	24.5	33.3			
14420 00	Construction sand and gravel, n.s.k.....	115.7	115.2	114.9	(2)	(2)	(2)			
14420 01										

See footnotes at end of table.

**Table 3. Production and Quantity and Value of Shipments by All Producers,
by Geographic Areas: 1967 and 1963—Continued**

(Includes production and quantity and value of products reported not only by establishments classified in this industry, but also by establishments classified in other industries, and shipping these products as "secondary" products. See appendix under "Individual Products")

Product code	Product	1967			1963		
		Production (million short tons)	Total shipments, including interplant transfers		Production (million short tons)	Total shipments, including interplant transfers	
			Quantity (million short tons)	Value (million dollars)		Quantity (million short tons)	Value (million dollars)
WEST SOUTH CENTRAL--Continued							
1442- --	Arkansas: Construction sand and gravel, total.....	8.5	8.1	9.1	(NA)	(NA)	(NA)
14421 01	Construction sand.....	2.5	2.5	2.6			
14422 01							
14421 05	Gravel.....	4.1	4.0	5.2			
14422 05							
14420 00	Construction sand and gravel, n.s.k.....	1.8	1.6	1.3			
14420 01							
1442- --	Louisiana: Construction sand and gravel, total.....	16.0	15.9	21.4	(NA)	(NA)	(NA)
14422 01	Construction sand.....	4.4	4.4	5.1			
14421 05							
14422 05	Gravel.....	7.7	7.7	12.7			
14420 00							
14420 01	Construction sand and gravel, n.s.k.....	3.8	3.8	3.6			
1442- --	Oklahoma: Construction sand and gravel.....	4.1	3.8	3.3	(NA)	(NA)	(NA)
14421 01	Construction sand.....	2.1	1.9	1.6			
14422 01							
1442- --	Texas: Construction sand and gravel, total.....	37.6	36.7	44.2	30.3	29.9	35.7
14422 01	Construction sand.....	12.9	12.3	12.7	14.5	14.1	14.6
14422 01	Washed, screened, ground, or otherwise prepared.....	11.8	11.4	12.1	12.5	12.2	13.1
14422 05	Gravel.....	15.9	15.8	22.5	15.8	15.8	21.0
14422 05	Washed, screened, or otherwise prepared.....	14.9	14.8	21.7	14.3	13.8	18.9
14420 00	Construction sand and gravel, n.s.k.....	8.7	8.6	8.9	(2)	(2)	(2)
14420 01							
MOUNTAIN							
1442- --	Construction sand and gravel, total.....	28.1	25.1	28.6	43.5	41.0	45.0
14422 01	Construction sand.....	4.9	4.9	5.7	12.4	11.5	13.4
14422 01	Washed, screened, ground, or otherwise prepared.....	4.6	4.5	5.3	11.6	10.8	12.5
14421 05	Gravel, total.....	7.8	7.5	9.5	31.1	29.5	31.6
14422 05	Run of pit or bank.....	1.1	1.2	1.0	2.8	2.7	2.4
14422 05	Washed, screened, or otherwise prepared.....	6.7	6.4	8.5	28.3	26.8	29.2
14420 00	Construction sand and gravel, n.s.k.....	15.4	12.6	13.4	(2)	(2)	(2)
14420 01							
1442- --	Montana: Construction sand and gravel.....	1.7	1.6	1.7	(NA)	(NA)	(NA)
1442- --	Idaho: Construction sand and gravel.....	1.4	1.0	1.6	(NA)	(NA)	(NA)
1442- --	Colorado: Construction sand and gravel, total.....	7.7	7.6	9.3	(NA)	(NA)	(NA)
14421 01	Construction sand.....	2.3	2.2	2.2			
14422 01							
14421 05	Gravel.....	3.2	3.2	4.8			
14422 05							
14421 00	Construction sand and gravel, n.s.k.....	2.2	2.1	2.3			
14420 01							
1442- --	New Mexico: Construction sand and gravel.....	2.1	1.9	2.4	(NA)	(NA)	(NA)
1442- --	Arizona: Construction sand and gravel.....	8.2	6.6	7.4	(NA)	(NA)	(NA)
1442- --	Utah: Construction sand and gravel.....	3.2	2.8	2.3	(NA)	(NA)	(NA)
1442- --	Nevada: Construction sand and gravel.....	3.2	3.1	3.4	(NA)	(NA)	(NA)
PACIFIC							
1442- --	Construction sand and gravel, total.....	101.1	98.3	110.3	126.6	121.2	135.6
14421 01	Construction sand, total.....	32.7	32.5	35.4	50.1	47.9	50.2
14422 01	Run of pit or bank.....	3.9	3.8	3.8	5.3	4.8	5.0
14422 01	Washed, screened, ground, or otherwise prepared.....	28.9	28.7	31.6	44.8	43.2	45.0

See footnotes at end of table.

**Table 3. Production and Quantity and Value of Shipments by All Producers,
by Geographic Areas: 1967 and 1963-Continued**

(Includes production and quantity and value of products reported not only by establishments classified in this industry, but also by establishments classified in other industries, and shipping these products as "secondary" products. See appendix under "Individual Products")

Product code	Product	1967			1963		
		Production (million short tons)	Total shipments, including interplant transfers		Production (million short tons)	Total shipments, including interplant transfers	
			Quantity (million short tons)	Value (million dollars)		Quantity (million short tons)	Value (million dollars)
	PACIFIC--Continued						
1442- --	Construction sand and gravel, total--Continued						
	Gravel, total.....	46.6	46.6	51.7	76.5	73.3	85.4
14421 05	Run of pit or bank.....	4.0	4.0	3.8	8.6	8.0	8.2
14422 05	Washed, screened, or otherwise prepared.....	42.6	42.7	48.0	67.9	65.3	77.2
14420 00	Construction sand and gravel, n.s.k.....	121.8	119.2	123.1	(2)	(2)	(2)
14420 01							
1442- --	Washington:				(NA)	(NA)	(NA)
	Construction sand and gravel, total.....	16.0	15.8	17.2			
	Construction sand.....	4.0	4.0	4.2			
14422 01	Washed, screened, ground, or otherwise prepared.....	3.1	3.1	3.4			
	Gravel.....	7.6	7.6	7.7			
14422 05	Washed, screened, or otherwise prepared.....	6.4	6.4	6.8			
14420 00	Construction sand and gravel, n.s.k.....	14.4	14.2	15.3			
14420 01							
1442- --	California:						
	Construction sand and gravel, total.....	73.4	71.6	78.7	100.8	97.3	107.5
	Construction sand, total.....	26.6	26.4	28.0	42.4	40.9	42.3
14421 01	Run of pit or bank.....	2.0	2.0	1.7	4.3	3.8	3.9
14422 01	Washed, screened, ground, or otherwise prepared.....	24.5	24.4	26.3	38.2	37.1	38.4
	Gravel, total.....	34.2	34.3	37.9	58.3	56.4	65.2
14421 05	Run of pit or bank.....	2.2	2.2	2.1	5.8	5.6	5.7
14422 05	Washed, screened, or otherwise prepared.....	32.0	32.1	35.8	52.5	50.9	59.4
14420 00	Construction sand and gravel, n.s.k.....	112.6	110.9	112.9	(2)	(2)	(2)
14420 01							
	UNITED STATES						
	Industrial sand, total.....	24.8	24.6	90.7	21.4	21.4	70.9
14430 01	Glass sand.....	9.5	9.5	34.0	8.1	8.1	27.2
14440 01	Molding sand.....	8.5	8.4	27.8	7.8	7.8	21.0
14450 01	Industrial sand, n.e.c.....	6.8	6.6	29.0	5.5	5.5	22.7
	NEW ENGLAND						
	Industrial sand.....	0.2	0.2	1.4	0.2	0.2	0.9
	MIDDLE ATLANTIC						
	Industrial sand.....	4.7	4.7	18.1	4.5	4.5	16.9
14440 01	Molding sand.....	1.6	1.6	6.2	1.9	1.9	6.6
	EAST NORTH CENTRAL						
	Industrial sand, total.....	10.1	10.1	32.7	8.6	8.7	23.9
14430 01	Glass sand.....	3.2	3.2	9.3	2.5	2.5	7.1
14440 01	Molding sand.....	5.3	5.3	16.5	4.7	4.7	10.7
14450 01	Industrial sand, n.e.c.....	1.5	1.5	6.9	1.5	1.5	6.1
	Ohio:						
	Industrial sand.....	1.5	1.4	5.9	1.1	1.1	4.4
14440 01	Molding sand.....	0.7	0.7	2.7	(NA)	(NA)	(NA)
	Illinois:						
	Industrial sand.....	4.0	4.0	15.0	2.9	2.9	10.2
14440 01	Molding sand.....	1.1	1.1	5.3	(NA)	(NA)	(NA)
	Michigan:						
	Industrial sand.....	3.1	3.1	7.9	3.2	3.2	6.3
	WEST NORTH CENTRAL						
	Industrial sand, total.....	1.5	1.4	5.1	1.6	1.6	4.8
14430 01	Glass sand.....	0.7	0.7	1.7	(NA)	(NA)	(NA)
14440 01	Molding sand.....	0.3	0.3	0.9	(NA)	(NA)	(NA)
14450 01	Industrial sand, n.e.c.....	0.5	0.4	2.5	(NA)	(NA)	(NA)

See footnotes at end of table.

**Table 3. Production and Quantity and Value of Shipments by All Producers,
by Geographic Areas: 1967 and 1963—Continued**

(Includes production and quantity and value of products reported not only by establishments classified in this industry, but also by establishments classified in other industries, and shipping these products as "secondary" products. See appendix under "Individual Products")

Product code	Product	1967			1963		
		Production (million short tons)	Total shipments, including interplant transfers		Production (million short tons)	Total shipments, including interplant transfers	
			Quantity (million short tons)	Value (million dollars)		Quantity (million short tons)	Value (million dollars)
	SOUTH ATLANTIC						
	Industrial sand, total.....	2.7	2.7	11.6	2.3	2.3	9.0
14430 01	Glass sand.....	1.6	1.5	6.3	(NA)	(NA)	(NA)
14440 01	Molding sand.....	0.2	0.2	0.6	(NA)	(NA)	(NA)
14450 01	Industrial sand, n.e.c.....	1.0	1.0	4.7	(NA)	(NA)	(NA)
	Maryland:						
	Industrial sand.....	0.4	0.3	1.2	(NA)	(NA)	(NA)
	EAST SOUTH CENTRAL						
	Industrial sand.....	1.1	1.1	3.4	0.9	0.9	2.3
	WEST SOUTH CENTRAL						
	Industrial sand, total.....	2.3	2.3	9.0	1.6	1.6	5.8
14430 01	Glass sand.....	0.6	0.6	1.8	(NA)	(NA)	(NA)
14440 01	Molding sand.....	0.4	0.4	1.1	(NA)	(NA)	(NA)
14450 01	Industrial sand, n.e.c.....	1.4	1.4	6.0	(NA)	(NA)	(NA)
	Texas:						
	Industrial sand.....	1.0	1.0	4.2	0.5	0.5	1.9
	MOUNTAIN						
	Industrial sand.....	0.4	0.5	1.7	0.3	0.3	1.3
	PACIFIC						
	Industrial sand.....	1.6	1.6	7.9	1.4	1.4	5.9
14430 01	Glass sand.....	1.1	1.1	5.3	(NA)	(NA)	(NA)

Note: Detail may not add to total due to independent rounding.

(NA) Not available. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind.

¹Figures include construction sand and gravel for establishments which did not report detailed products. Also included are estimates for administrative records (establishments with less than 5 employees) which accounted for approximately 5 percent of the United States total.

²Sand and gravel, n.s.k., which accounted for approximately 10 percent of the United States total, were allocated to reported product categories in 1963.

Table 4. Selected Supplies, Minerals Received for Preparation, and Purchased Machinery Installed: 1967 and 1963

(See appendix, "Explanation of Terms")

Code	Supplies	Unit of measure	1967		1963	
			Quantity	Cost (million dollars)	Quantity	Cost (million dollars)
	INDUSTRY 1442--CONSTRUCTION SAND AND GRAVEL					
	Selected supplies, minerals received for preparation, and purchased machinery installed, total.....		(X)	161.1	(X)	150.2
144191	Sand and gravel received for preparation.....	million				
		short tons	12.7	9.7	(NA)	3.1
353011	Purchased machinery installed.....		(X)	53.5	(X)	52.8
	Supplies used:					
289211	Explosive materials, except ammonium nitrate.....		(NA)	1.0	}	(X)
289212	Ammonium nitrate.....	1,000 lbs..	2,080.7	0.1		
289214	Blasting accessories.....		(X)	0.1		
331201	Steel mill shapes and forms.....		(NA)	5.5		
300167	Rubber and plastic products, including tires and tubes.....		(X)	2.3		
970099	All other supplies.....		(X)	54.7		
976000	Selected supplies,minerals received for preparation, and purchased machinery installed, n.s.k. ¹		(X)	34.2		
	INDUSTRY 1446.--INDUSTRIAL SAND					
	Selected supplies,minerals received for preparation, and purchased machinery installed, total.....		(X)	22.0	(X)	15.4
144191	Sand and gravel received for preparation.....	million				
		short tons	1.2	1.2	(NA)	0.7
353011	Purchased machinery installed.....		(X)	8.1	(X)	5.2
	Supplies Used:					
289211	Explosive materials, except ammonium nitrate.....	1,000 lbs..	1,516.7	0.2	}	(X)
289212	Ammonium nitrate.....	do.....	3,905.6	0.2		
289214	Blasting accessories.....		(X)	(Z)		
331201	Steel mill shapes and forms.....		(NA)	0.8		
300167	Rubber and plastic products, including tires and tubes.....		(X)	0.2		
970099	All other supplies.....		(X)	9.6		
976000	Selected supplies, minerals received for preparation, and purchased machinery installed, n.s.k. ¹		(X)	1.6		

Note: Detail may not add to the total due to independent rounding.

(NA) Not available. n.s.k. Not specified by kind. (X) Not applicable. (Z) Less than \$50 thousand.

¹This item represents the total cost of supplies for establishments that did not report detailed supplies data. For 1967, this also includes estimates for establishments that were not mailed report forms.

SCOPE AND COVERAGE

This report is one of a series presenting preliminary information on industries and products from the 1967 Census of Mineral Industries. The data will be superseded in a final report which in turn will be included in Volume I, Summary and Industry Statistics, 1967 Census of Mineral Industries. That report will include a comprehensive discussion of the concepts and definitions used in the census.

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For oil and gas field operation and contract services, reports were required for units somewhat different from the "establishment" reporting unit used for other types of mining. Every concern which operated oil and gas wells, drilled such wells for its own account or for others, performed exploration work for oil or gas, or performed oil and gas field services for others during any part of calendar year 1967 was required to submit a separate report for each State or for each district within Texas, Louisiana, New Mexico, and California (however, information on employment, oil and gas production, and capital expenditures was requested by county). Further, concerns which supplied contract services for others were required to submit a separate report for each State. (In this instance also, information on employment, receipts for services, and capital expenditures was requested by county.)

In the 1967 census, for the first time, approximately 10,000 single-unit establishments with 1 to 4 employees were excused from filing reports. Under special arrangements which safeguarded the confidentiality of both tax and census records, limited data on payrolls, sales, and industry classification from the administrative records of the Social Security Administration and the Internal Revenue Service were made available to the Census Bureau for use in the 1967 censuses of business, manufactures, and mineral industries. Estimates for data other than payrolls and sales for these small establishments were constructed from industry averages. The effect on industry aggregates is slight in most industries. For mining as a whole, they account for less than 1 percent of value added. In industry 1442, these small establishments accounted for approximately 4 percent of value added. In industry 1446, these small establishments accounted for less than 1 percent of value added.

In the 1967 Census of Mineral Industries, data for all single-unit establishments without paid employees were excluded because of the difficulty in

developing a mailing list for these establishments. The exclusion of these establishments has had only a slight effect on industry aggregates for most industries. Data for establishments without employees were included in the 1963, 1958, and 1954 censuses if these establishments reported more than \$500 in one of the following data items: (1) value of shipments and receipts, (2) cost of supplies and purchased machinery, or (3) capital expenditures. In the 1963 census, establishments without paid employees for mining as a whole accounted for approximately 3 percent of value added, while they accounted for less than 1 percent of value added for industry 1442 and for industry 1446.

As in earlier censuses, a number of small establishments may have been misclassified as to industry. However, such possible misclassifications have no significant effect on the statistics other than the number of establishments. As indicated above, report forms were not mailed to very small establishments (less than 5 employees). The industry classifications for these establishments were assigned on the basis of brief descriptions of the general activity of the establishment. Where the description is incomplete or there are relatively fine lines of demarcation between industries or between mining and nonmining activity, the code assigned to an establishment could differ from that which would have been assigned on the basis of more complete product information. Therefore, the total establishment count should be reviewed as an approximation rather than a precise measurement. The counts of establishments with 20 or more employees are far more reliable than the total number of establishments.

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Appendix

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(For a more complete discussion of these terms and the method of compiling the Census of Mineral Industries, see the Introduction to the 1963 Census of Mineral Industries, Volume I.)

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Payroll--This item includes all forms of compensation such as salaries, wages, commissions, dismissal pay, all bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' Social Security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of these establishments, if a corporation; it excludes payments to the proprietor or partners, if an unincorporated concern. Respondents were told that in reporting they could follow the definition of payroll used for calculating the Federal withholding tax.

Production, Development, and Exploration Worker Man-Hours--The total man-hours figures represent all man-hours that production, development, and exploration workers worked both on active days during which there was production or development work, and inactive days, when only watchmen, inspectors, repairmen, and other maintenance men were on duty. They include all man-hours worked or paid for at the mining operations, except hours paid for vacations, holidays, or sick leave, when the employee was not at the establishment. Included are actual overtime hours, not straight-time equivalent hours. Man-hours of working proprietors or partners are excluded.

Cost of Supplies, etc., and Purchased Machinery--The 1967 census report forms requested information on supplies and purchased machinery installed; fuels and electric energy used; and contract work done by others for each establishment. These items included charges to both the current and capital accounts. The figures reported were to include items used during 1967 whether purchased, withdrawn from inventories, or received from other establishments of the company. For selected supplies and fuels and for electric energy, both quantity and cost data were requested. The cost data refer to direct charges actually paid or payable (after discounts) for items used during the year. Freight charges and other direct charges incurred by the establishment in acquiring the items are included. Where the company's records did not show actual amounts used, they were asked to approximate use by adding purchases (or receipts) during the year to opening inventory and subtracting closing inventory.

Separate figures were obtained for (a) selected supplies, minerals received for preparation, and purchased machinery installed; (b) electric energy purchased; (c) purchased fuels used for heat, power, or the generation of electricity; (d) contract work done by others; and (e) products bought and resold in the same condition. Supplies and equipment used in mine development, plant expansion, and capitalized repairs, which are chargeable to fixed assets accounts, were included, as were supplies furnished without charge to contractors for use at the mining operation and supplies sold to employees for use at the establishment. No data on such costs as advertising, insurance, telephone, and research and consulting services of other establishments; or on overhead costs, such as depreciation charges, rent, interest, and royalties were included in this item.

Specific Supplies Used and Minerals Prepared--In addition to the total cost of supplies, etc., and purchased machinery which every establishment was required to report, information was also collected on the consumption of major supplies used in mining. These supplies inquiries were restricted to those supplies which were important parts of the cost of production, exploration, and development of a particular industry and for which cost information was available from the firms' records. Information regarding the specific supplies consumed is shown in table 4.

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Establishments consuming less than a specified amount (usually \$5,000) were not requested to report the cost of a supply separately. Also, the cost of supplies for small establishments for which administrative records were used were imputed as "not specified by kind." (See text for importance of administrative records in the industry.)

Capital Expenditures--In the 1967 census, mining companies were asked to report expenditures made during the year for development and exploration of mineral properties, for new construction, and for machinery purchased at their operations that was chargeable to fixed assets accounts of the mineral establishment and were of a type for which depreciation, depletion, or Office of Minerals Exploration accounts were ordinarily maintained. Capital expenditures during 1967 were to be determined as "additions completed during the year plus construction in progress at the end of the year minus construction in progress at the beginning of the year." Reported capital expenditures were to include work done on contract as well as by the mine forces. Expenditures for machinery and equipment were to include those made for replacement purposes, as well as those for additions to capacity. Excluded from such expenditures totals are costs of maintenance and repairs charged as current operating expense. Also excluded are expenditures for land and mineral rights.

Wherever applicable, separate figures were provided for expenditures for (a) development and exploration of mineral property, (b) preparation plant construction and other construction, (c) new machinery and equipment, and (d) used plant and used equipment acquired from others.

Value of Shipments--The amounts under value of shipments are the values, f.o.b., mine, well, or plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts such as receipts for contract work performed for others, installation and repair, sales of scrap, and sale of products bought and resold without further processing. Included are all items produced by

the establishments and sold, transferred to other plants of the same company, or shipped on consignment.

In the case of multiunit companies, the firm was requested to report the value of products transferred to other establishments of the same company at full economic or commercial value, i.e., include not only the direct costs of production but also a reasonable proportion of "all other costs" (including company overhead) and profit.

Individual Products--In the 1967 Census of Mineral Industries, information on output of about 225 individual mineral product items was collected.

In general, the 1967 and 1963 minerals censuses figures were confined to separate totals for each crude and each prepared mineral. Where significant, separate shipments figures were also obtained for crude minerals going to preparation plants and those going to consumers.

Figures were collected on both quantity and value of shipments. Shipments include commercial shipments and transfers of products to other operations of the same company. For products which are used to a significant extent within the same establishment for power or heat, and for minerals mined and prepared in the same establishment, total production or separate data on production for such uses were collected. Typically, production was also collected for products for which there are usually significant differences between total production and total shipments as a result of stock changes.

For service industries, the amount received or due for services performed during 1967 was collected as a measure of output. For mine operators who also perform services, the amount received for such services was added to the total value of products shipped to determine total value of shipments and receipts for each establishment.

Table 3 of the individual industry reports provides the national and regional total shipments from all industries for each of the products primary to the industries covered in the report.

Shipments and Production--Shipments figures include all products physically shipped from the establishment during 1967, including material withdrawn from stockpiles and products shipped on consignment, whether or not sold in 1967. Prepared material or concentrates include prep-

aration from ores mined at the same establishment, purchased, received from other operations of the same company, or received for milling on a custom or toll basis. For products transferred to other establishments of the same company or prepared on a custom basis, the company was requested to include, in addition to direct costs of production, a reasonable proportion of company overhead and profits.

For industry and industry group totals, some duplication is introduced by the inclusion of materials transferred from one establishment to another for mineral preparation. Wherever value of shipments is shown without further specification, it represents gross shipments.

For years prior to 1954, data on shipments were not collected. Instead, the report forms requested data on the quantity and value of

production. In general, the data for these years were edited to represent net production, excluding duplications due to mining and later preparing the same material in the same industry.

Value Added in Mining--Since the 1954 census, this measure has been computed by subtracting the cost of supplies, etc., and purchased machinery from the sum of value of shipments and receipts and capital expenditures. This statistic avoids the duplication in value of shipments which results from the use of products of some establishments as supplies, energy sources, or materials by others. Moreover, it provides a measure of value added not only in mineral production, but also in the development of mineral properties. For these reasons, it is considered to be the best value measure for comparing the relative economic importance of mining among industries and geographic areas.



CURRENT INDUSTRIAL REPORTS

Current Industrial Reports present data for industries in the following broad categories:

Textile mill products • Apparel and leather • Chemicals, rubber, and plastics • Machinery and equipment • Primary metals • Intermediate metal products • Processed foods • Lumber, furniture, and paper products • Stone, clay, and glass products.

A continuing series of more than 100 monthly, quarterly, and annual reports on industrial production, inventories, and orders. Issued by the Bureau of the Census, this series presents data for 5,000 products representing 40 percent of all manufacturing in the United States.

For information on individual product groups covered, frequency of reports, and subscription prices, write to the Bureau of the Census, Washington, D. C. 20233.

U. S. DEPARTMENT OF COMMERCE
Bureau of the Census



1967 Census of MINERAL INDUSTRIES

INDUSTRY SERIES



U.S. DEPARTMENT OF COMMERCE/Bureau of the Census

preliminary report

MIC67(P)-14C-1

Bentonite

SIC Code 1452

The Bentonite Industry includes establishments primarily engaged in mining, milling, or otherwise preparing bentonite. Establishments engaged in preparing bentonite which do not include a mine are classified in the manufacturing industry 3295, Minerals and Earths, Ground or Otherwise Treated.

This report includes figures for administrative offices, warehouses, storage facilities, and other auxiliary units which service mining establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions contained in the 1967 edition

of the Standard Industrial Classification (SIC) Manual.

In 1967, the value of products shipped and miscellaneous receipts of establishments classified in the Bentonite Industry amounted to \$21.2 million, an increase of 17.1 percent compared with 1963. Value added in mining amounted to \$13.2 million in 1967, an increase of 15.8 percent from 1963. Average employment in the industry showed an increase of 12.5 percent from 1963 to a total of 0.9 thousand employees in 1967.

For an explanation of the terms used in the tables, see appendix at the end of this report.

TABLE 1. General Statistics: 1967 and Earlier Years

(See appendix, "Explanation of Terms")

(See appendix, "Explanation of Terms")

Year	Establishments		All employees		Production, development, and exploration workers			Value added in mining (million dollars)	Cost of supplies, etc., and purchased machinery installed (million dollars)	Value of shipments and receipts (million dollars)	Capital expenditures (million dollars)
	Total	With 20 employ- ees or more	Number	Payroll	Number	Man-hours	Wages				
	(number)	(number)	(1,000)	(million dollars)	(1,000)	(millions)	(million dollars)				
	INDUSTRY 1452.--BENTONITE										
1967.....	32	16	0.9	5.4	0.6	1.4	3.4	13.2	8.8	21.2	0.9
1963.....	44	16	0.8	4.1	0.6	1.5	3.1	11.4	8.0	18.1	1.4
1958.....	41	15	0.7	2.9	0.5	1.1	2.0	12.2	5.7	16.8	1.1
1954.....	43	16	0.6	2.1	0.6	1.3	1.9	16.4	6.1	21.8	0.6
1939 ¹	² 29	(NA)	0.4	0.4	0.4	0.7	0.3	1.5	³ 0.5	⁴ 2.0	(NA)

(NA) Not available.

¹For 1939, establishments primarily producing rotary drilling muds were classified in the Kaolin and Ball Clay Industry. For later years, all clays were classified by type rather than by use and establishments primarily producing rotary drilling muds in that year were probably classified in the Bentonite Industry or the Clay and Related Minerals, N.E.C., Industry. For census years prior to 1939, according to the United States Bureau of Mines, there was no production of bentonite.

²Represents number of mines.

³Excludes the cost of minerals received for preparation.

⁴Represents value of net shipments and receipts.

TABLE 2. General Statistics, by Geographic Areas: 1967 and 1963

(See appendix, "Explanation of Terms")

Geographic area	1967											1963	
	Establishments		All employees		Production, development, and exploration workers			Value added in mining	Cost of supplies, etc., and purchased machinery installed	Value of shipments and receipts	Capital expendi- tures	All employees	Value added in mining
	Total	With 20 employ- ees or more	Number	Payroll	Number	Man-hours	Wages						
	(number)	(number)	(1,000)	(million dollars)	(1,000)	(millions)	(million dollars)	(million dollars)	(million dollars)	(million dollars)	(million dollars)	(1,000)	(million dollars)
	INDUSTRY 1452.--BENTONITE												
United States, total..	32	16	0.9	5.4	0.6	1.4	3.4	13.2	8.8	21.2	0.9	0.8	11.4
North Central and South Regions.....	15	7	0.4	2.7	0.3	0.6	1.3	4.9	3.0	7.7	0.2	(NA)	(NA)
West Region.....	17	9	0.4	2.8	0.3	0.8	2.2	8.3	5.9	13.5	0.6	0.4	5.4
Wyoming.....	12	9	0.4	2.5	0.3	0.8	1.9	7.8	5.5	12.9	0.4	(NA)	(NA)

Note: Detail may not add to the total due to independent rounding.

(NA) Not available.

TABLE 3. Quantity and Value of Shipments by All Producers: 1967 and 1963

(Includes quantity and value of products reported not only by establishments classified in this industry, but also by establishments classified in other industries, and shipping these products as "secondary" products. See appendix under "Individual Products")

Product code	Product	1967		1963	
		Quantity (1,000 short tons)	Value (million dollars)	Quantity (1,000 short tons)	Value (million dollars)
	UNITED STATES				
1452- --	Bentonite, total.....	(X)	20.1	(X)	17.2
14521 01	Crude bentonite shipments.....	362.6	1.7	¹ 241.0	¹ 1.2
14522 01	Prepared bentonite shipped, including interplant transfers, total.....	(NA)	(NA)	(D)	(D)
	Prepared in the mineral industries.....	1,611.3	18.4	1,404.0	16.0
	Prepared in other industries.....	(NA)	(NA)	(D)	(D)
	NORTH CENTRAL AND SOUTH REGIONS				
14521 01	Crude bentonite shipments.....	140.3	0.6	¹ 147.0	¹ 0.6
14522 01	Prepared bentonite produced in the mineral industries.....	486.8	7.1	558.0	7.6
	WEST REGION				
14521 01	Crude bentonite shipments.....	222.3	1.2	¹ 94.0	¹ 0.6
14522 01	Prepared bentonite produced in the mineral industries.....	1,124.5	11.3	846.0	8.4

Note: Detail may not add to the total due to independent rounding.

(NA) Not available. (X) Not applicable. (D) Withheld to avoid disclosure of individual company data.

¹Represents gross shipments less receipts from other establishments of crude materials for preparation.

Table 4. Selected Supplies, Minerals Received for Preparation, and Purchased Machinery Installed: 1967 and 1963

(See appendix, "Explanation of Terms")

Code	Supplies	Unit of measure	1967		1963	
			Quantity	Cost (million dollars)	Quantity	Cost (million dollars)
	INDUSTRY 1452.--BENTONITE					
	Selected supplies, minerals received for preparation, and purchased machinery installed, total.....		(X)	5.4	(X)	¹ 5.5
145091	Minerals for preparation:					
	Received from other establishments.....	1,000 s. tons..	-	-	1,874.0	(2)
	Mined and prepared at the same establishment.....	..do.....	2,207.7	(X)		
353011	Purchased machinery installed.....		(X)	0.6	(X)	1.1
	Supplies used:					
970099	All other supplies used.....		(X)	4.7	(X)	² 4.3
976000	Selected supplies, minerals received for preparation, and purchased machinery installed, n.s.k. ³		(X)	0.1		

Note: Detail may not add to the total due to independent rounding.

-Represents zero. n.s.k. Not elsewhere classified. (X) Not applicable.

¹Includes the cost of products bought and resold without further processing.²The cost of minerals received for preparation is included with the cost of all other supplies.³This item represents the total cost of supplies for establishments that did not report detailed supplies data. For 1967, this also includes estimates for establishments that were not mailed report forms.

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Establishments consuming less than a specified amount (usually \$5,000) were not requested to report the cost of a supply separately. Also, the cost of supplies for small establishments for which administrative records were used were imputed as "not specified by kind." (See text for importance of administrative records in the industry.)

Capital Expenditures--In the 1967 census, mining companies were asked to report expenditures made during the year for development and exploration of mineral properties, for new construction, and for machinery purchased at their operations that was chargeable to fixed assets accounts of the mineral establishment and were of a type for which depreciation, depletion, or Office of Minerals Exploration accounts were ordinarily maintained. Capital expenditures during 1967 were to be determined as "additions completed during the year plus construction in progress at the end of the year minus construction in progress at the beginning of the year." Reported capital expenditures were to include work done on contract as well as by the mine forces. Expenditures for machinery and equipment were to include those made for replacement purposes, as well as those for additions to capacity. Excluded from such expenditures totals are costs of maintenance and repairs charged as current operating expense. Also excluded are expenditures for land and mineral rights.

Wherever applicable, separate figures were provided for expenditures for (a) development and exploration of mineral property, (b) preparation plant construction and other construction, (c) new machinery and equipment, and (d) used plant and used equipment acquired from others.

Value of Shipments--The amounts under value of shipments are the values, f.o.b., mine, well, or plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts such as receipts for contract work performed for others, installation and repair, sales of scrap, and sale of products bought and resold without further processing. Included are all items produced by

the establishments and sold, transferred to other plants of the same company, or shipped on consignment.

In the case of multiunit companies, the firm was requested to report the value of products transferred to other establishments of the same company at full economic or commercial value, i.e., include not only the direct costs of production but also a reasonable proportion of "all other costs" (including company overhead) and profit.

Individual Products--In the 1967 Census of Mineral Industries, information on output of about 225 individual mineral product items was collected.

In general, the 1967 and 1963 minerals censuses figures were confined to separate totals for each crude and each prepared mineral. Where significant, separate shipments figures were also obtained for crude minerals going to preparation plants and those going to consumers.

Figures were collected on both quantity and value of shipments. Shipments include commercial shipments and transfers of products to other operations of the same company. For products which are used to a significant extent within the same establishment for power or heat, and for minerals mined and prepared in the same establishment, total production or separate data on production for such uses were collected. Typically, production was also collected for products for which there are usually significant differences between total production and total shipments as a result of stock changes.

For service industries, the amount received or due for services performed during 1967 was collected as a measure of output. For mine operators who also perform services, the amount received for such services was added to the total value of products shipped to determine total value of shipments and receipts for each establishment.

Table 3 of the individual industry reports provides the national and regional total shipments from all industries for each of the products primary to the industries covered in the report.

Shipments and Production--Shipments figures include all products physically shipped from the establishment during 1967, including material withdrawn from stockpiles and products shipped on consignment, whether or not sold in 1967. Prepared material or concentrates include prep-

aration from ores mined at the same establishment, purchased, received from other operations of the same company, or received for milling on a custom or toll basis. For products transferred to other establishments of the same company or prepared on a custom basis, the company was requested to include, in addition to direct costs of production, a reasonable proportion of company overhead and profits.

For industry and industry group totals, some duplication is introduced by the inclusion of materials transferred from one establishment to another for mineral preparation. Wherever value of shipments is shown without further specification, it represents gross shipments.

For years prior to 1954, data on shipments were not collected. Instead, the report forms requested data on the quantity and value of

production. In general, the data for these years were edited to represent net production, excluding duplications due to mining and later preparing the same material in the same industry.

Value Added in Mining--Since the 1954 census, this measure has been computed by subtracting the cost of supplies, etc., and purchased machinery from the sum of value of shipments and receipts and capital expenditures. This statistic avoids the duplication in value of shipments which results from the use of products of some establishments as supplies, energy sources, or materials by others. Moreover, it provides a measure of value added not only in mineral production, but also in the development of mineral properties. For these reasons, it is considered to be the best value measure for comparing the relative economic importance of mining among industries and geographic areas.

U.S. DEPARTMENT OF COMMERCE
Bureau of the Census
Washington, D.C. 20233

OFFICIAL BUSINESS



POSTAGE AND FEES PAID
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1967 Census of MINERAL INDUSTRIES

INDUSTRY SERIES



U.S. DEPARTMENT OF COMMERCE/Bureau of the Census

preliminary report

MIC67(P)-14C-2

Fire clay

SIC Code 1453

Bureau of the Census
Library

The Fire Clay Industry includes establishments primarily engaged in mining, milling, or otherwise preparing fire clay, including stoneware clay and diaspore. Establishments producing fire clay as a principal product in conjunction with the manufacture of cement or clay refractory or pottery products are classified in Major Group 32, Stone, Clay, Glass, and Concrete Products.

This report includes figures for administrative offices, warehouses, storage facilities, and other auxiliary units which service mining establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions contained in the 1967 edition

of the Standard Industrial Classification (SIC) Manual.

In 1967, the value of products shipped and miscellaneous receipts of establishments classified in the Fire Clay Industry amounted to \$23.0 million, an increase of 34.5 percent compared with 1963. Value added in mining amounted to \$18.4 million in 1967, an increase of 46.0 percent from 1963. Average employment in the industry showed a decrease of 20.0 percent from 1963 to a total of 0.8 thousand employees in 1967.

For an explanation of the terms used in the tables, see appendix at the end of this report.

TABLE 1. General Statistics: 1967 and Earlier Years

(See appendix, "Explanation of Terms")

Year	Establishments		All employees		Production, development, and exploration workers			Value added in mining	Cost of supplies, etc., and purchased machinery installed	Value of shipments and receipts	Capital expendi- tures
	Total	With 20 employ- ees or more	Number	Payroll	Number	Man-hours	Wages				
	(number)	(number)	(1,000)	(million dollars)	(1,000)	(millions)	(million dollars)	(million dollars)	(million dollars)	(million dollars)	(million dollars)
INDUSTRY 1453.--FIRE CLAY											
1967.....	100	12	0.8	5.2	0.7	1.5	4.3	18.4	6.1	23.0	1.5
1963.....	155	14	1.0	4.6	0.9	1.6	3.8	12.6	6.6	17.1	2.2
1958.....	182	19	1.5	6.0	1.3	2.2	5.0	14.5	6.2	18.6	2.1
1954.....	248	29	2.0	6.6	1.8	3.1	5.7	17.5	6.1	22.2	1.3
1939.....	¹ 196	(NA)	2.3	2.1	2.1	(NA)	1.8	3.4	² 0.7	³ 4.1	(NA)

(NA) Not available.

¹Represents number of mines.²Excludes the cost of minerals received for preparation and purchased machinery installed.³Represents value of net shipments and receipts.

TABLE 2. General Statistics, by Geographic Areas: 1967 and 1963

(See appendix, "Explanation of Terms")

Geographic area	1967											1963	
	Establishments		All employees		Production, development, and exploration workers			Value added in mining	Cost of supplies, etc., and purchased machinery installed	Value of shipments and receipts	Capital expendi- tures	All employees	Value added in mining
	Total	With 20 employ- ees or more	Number	Payroll	Number	Man-hours	Wages						
	(number)	(number)	(1,000)	(million dollars)	(1,000)	(millions)	(million dollars)	(million dollars)	(million dollars)	(million dollars)	(million dollars)	(1,000)	(million dollars)
INDUSTRY 1453.--FIRE CLAY													
United States, total.	100	12	0.8	5.2	0.7	1.5	4.3	18.4	6.1	23.0	1.5	1.0	12.6
Middle Atlantic.....	34	5	0.3	1.7	0.3	0.5	1.5	5.1	1.2	5.9	0.3	0.3	3.5
East North Central.....	21	4	0.2	1.8	0.2	0.5	1.4	3.5	1.8	4.9	0.4	0.4	3.8
Ohio.....	15	4	0.2	1.5	0.2	0.4	1.1	3.0	1.5	4.2	0.4	(NA)	(NA)
West North Central (Missouri).....	19	1	0.1	0.6	0.1	0.2	0.4	5.4	1.3	6.5	0.3	¹ 0.1	¹ 2.6
South.....	13	2	0.1	0.9	0.1	0.2	0.8	3.7	1.5	4.7	0.4	(NA)	(NA)
West.....	13	-	(Z)	0.3	(Z)	0.1	0.3	0.7	0.4	1.1	(Z)	(NA)	(NA)
Colorado.....	7	-	(Z)	0.1	(Z)	(Z)	0.1	0.3	0.1	0.5	(Z)	(NA)	(NA)

Note: Detail may not add to the total because of independent rounding.

- Represents zero. (NA) Not available. (Z) Less than one-half of the unit of measure specified.

¹1963 data includes other States, in addition to Missouri, in the West North Central Division.

TABLE 3. Quantity and Value of Shipments by All Producers: 1967 and 1963

(Includes quantity and value of the products reported not only by establishments classified in this industry, but also by establishments classified in other industries, and shipping these products as "secondary" products. See appendix under "Value of shipments")

Product code	Product and geographic area	Shipments, including interplant transfers			
		1967		1963	
		Quantity (1,000 short tons)	Value (million dollars)	Quantity (1,000 short tons)	Value (million dollars)
1453- --	FIRE CLAY.....	(X)	21.9	(X)	19.5
	UNITED STATES				
	Crude fire clay mined and used in the same establishment in making clay products ¹	1,392.4	(X)	4,571.0	(X)
14531 01	Crude fire clay.....	2,038.7	15.8	3,173.0	13.7
14532 01	Prepared fire clay.....	826.7	6.0	1,069.0	5.8
	MIDDLE ATLANTIC				
14531 01	Crude fire clay.....	464.9	4.8	831.0	4.0
14532 01	Prepared fire clay.....	49.1	0.4	198.0	1.2
	NORTH CENTRAL				
14531 01	Crude fire clay.....	942.6	7.6	1,757.0	7.2
14532 01	Prepared fire clay.....	547.1	3.5	508.0	2.5
14531 01	Ohio, crude and prepared fire clay.....	728.2	4.4	1,169.0	4.3
14532 01					
14531 01	Missouri, crude and prepared fire clay.....	627.5	7.3	(NA)	(NA)
14532 01					
	SOUTH				
14531 01	Crude fire clay.....	551.3	4.5	212.0	1.1
14532 01	Prepared fire clay.....			269.0	1.7
14531 01	East South Central, crude fire clay.....	126.2	1.5	(NA)	(NA)
	WEST				
14531 01	Crude fire clay.....	310.4	1.1	378.0	1.4
14532 01	Prepared fire clay.....			94.0	0.4
14531 01	Colorado, crude and prepared fire clay.....	92.9	0.4	(NA)	(NA)
14532 01					
14531 01	California, crude and prepared fire clay.....	217.5	0.6	(NA)	(NA)
14532 01					

Note: Detail may not add to the total because of independent rounding.

(X) Not applicable. (NA) Not available.

¹Represents quantity of crude fire clay mined and used at establishments classified in the manufacturing industries. For 1967, excludes such establishments with less than 10 employees which in 1963 accounted for over 30 percent of this quantity.

Table 4. Selected Supplies, Minerals Received for Preparation, and Purchased Machinery Installed: 1967 and 1963

(See appendix, "Explanation of Terms")

Code	Supplies	Unit of measure	1967		1963	
			Quantity	Cost (million dollars)	Quantity	Cost (million dollars)
	INDUSTRY 1453.--FIRE CLAY					
	Selected supplies, minerals received for preparation, and purchased machinery installed, total.....		(X)	3.4	(X)	4.7
145091	Minerals for preparation:					
	Received from other establishments.....	1,000 short tons	-	-	32.0	0.1
	Mined and prepared at the same establishment.....	do.....	761.5	(X)	681.0	(X)
353011	Purchased machinery installed.....		(X)	0.8	(X)	2.0
	Supplies used:					
28921-	Explosive materials and blasting accessories.....		(X)	0.2	{	(X)
331201	Steel mill shapes and forms.....					
970099	All other supplies.....					
976000	Selected supplies, minerals received for preparation, and purchased machinery installed, n.s.k. ¹		(X)	2.4		2.6

- Represents zero. (X) Not applicable. n.s.k. Not specified by kind

¹This item represents the total cost of supplies for establishments that did not report detailed supplies data. For 1967 this also includes estimates for establishments that were not mailed report forms.

SCOPE AND COVERAGE

This report is one of a series presenting preliminary information on industries and products from the 1967 Census of Mineral Industries. The data will be superseded in a final report which in turn will be included in Volume 1, Summary and Industry Statistics, 1967 Census of Mineral Industries. That report will include a comprehensive discussion of the concepts and definitions used in the census.

The census of mineral industries covers each mining establishment of firms in the United States with one or more paid employees. Firms which operate more than one establishment were required to file a separate report for each location. Companies which engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation and the activities were of significant size.

For oil and gas field operation and contract services, reports were required for units somewhat different from the "establishment" reporting unit used for other types of mining. Every concern which operated oil and gas wells, drilled such wells for its own account or for others, performed exploration work for oil or gas, or performed oil and gas field services for others during any part of calendar year 1967 was required to submit a separate report for each State or for each district within Texas, Louisiana, New Mexico, and California (however, information on employment, oil and gas production, and capital expenditures was requested by county). Further, concerns which supplied contract services for others were required to submit a separate report for each State. (In this instance also, information on employment, receipts for services, and capital expenditures was requested by county.)

In the 1967 census, for the first time, approximately 10,000 single-unit establishments with 1 to 4 employees were excused from filing reports. Under special arrangements which safeguarded the confidentiality of both tax and census records, limited data on payrolls, sales, and industry classification from the administrative records of the Social Security Administration and the Internal Revenue Service were made available to the Census Bureau for use in the 1967 censuses of business, manufactures, and mineral industries. Estimates for data other than payrolls and sales for these small establishments were constructed from industry averages. The effect on industry aggregates is slight in most industries. For mining as a whole, they account for less than 1 percent of value added. In industry 1453, these small establishments accounted for approximately 4 percent of value added.

In the 1967 Census of Mineral Industries, data for all single-unit establishments without paid employees were excluded because of the difficulty in

developing a mailing list for these establishments. The exclusion of these establishments has had only a slight effect on industry aggregates for most industries. Data for establishments without employees were included in the 1963, 1958, and 1954 censuses if these establishments reported more than \$500 in one of the following data items: (1) value of shipments and receipts, (2) cost of supplies and purchased machinery, or (3) capital expenditures. In the 1963 census, establishments without paid employees for mining as a whole accounted for approximately 3 percent of value added, while they accounted for less than 5 percent of value added for industry 1453.

As in earlier censuses, a number of small establishments may have been misclassified as to industry. However, such possible misclassifications have no significant effect on the statistics other than the number of establishments. As indicated above, report forms were not mailed to very small establishments (less than 5 employees). The industry classifications for these establishments were assigned on the basis of brief descriptions of the general activity of the establishment. Where the description is incomplete or there are relatively fine lines of demarcation between industries or between mining and nonmining activity, the code assigned to an establishment could differ from that which would have been assigned on the basis of more complete product information. Therefore, the total establishment count should be reviewed as an approximation rather than a precise measurement. The counts of establishments with 20 or more employees are far more reliable than the total number of establishments.

More detailed figures for this industry will appear in the final census reports. Final reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each mineral industry and for each State are being issued. Final industry reports and final area reports will be published during the spring and fall of 1970. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C. 20233.

The 1967 Census of Mineral Industries is the 16th census of mineral establishments in the United States. For 1967, it was conducted jointly with the censuses of manufactures, retail trade, wholesale trade, and selected services under authority of Title 13 of the United States Code. Title 13 specified that a census of mineral industries be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7."

Appendix

EXPLANATION OF TERMS

(For a more complete discussion of these terms and the method of compiling the Census of Mineral Industries, see the Introduction to the 1963 Census of Mineral Industries, Volume I.)

All Employees--All full-time and part-time employees on the payrolls of operating mineral establishments for any part of the pay period ended nearest the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of the corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The number of production workers is the average of those for mid-month payroll periods of March, May, August, and November. The "all employee" number is the average number of production workers plus the number of other employees in mid-March.

Payroll--This item includes all forms of compensation such as salaries, wages, commissions, dismissal pay, all bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' Social Security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of these establishments, if a corporation; it excludes payments to the proprietor or partners, if an unincorporated concern. Respondents were told that in reporting they could follow the definition of payroll used for calculating the Federal withholding tax.

Production, Development, and Exploration Worker Man-Hours--The total man-hours figures represent all man-hours that production, development, and exploration workers worked both on active days during which there was production or development work, and inactive days, when only watchmen, inspectors, repairmen, and other maintenance men were on duty. They include all man-hours worked or paid for at the mining operations, except hours paid for vacations, holidays, or sick leave, when the employee was not at the establishment. Included are actual overtime hours, not straight-time equivalent hours. Man-hours of working proprietors or partners are excluded.

Cost of Supplies, etc., and Purchased Machinery--The 1967 census report forms requested information on supplies and purchased machinery installed; fuels and electric energy used; and contract work done by others for each establishment. These items included charges to both the current and capital accounts. The figures reported were to include items used during 1967 whether purchased, withdrawn from inventories, or received from other establishments of the company. For selected supplies and fuels and for electric energy, both quantity and cost data were requested. The cost data refer to direct charges actually paid or payable (after discounts) for items used during the year. Freight charges and other direct charges incurred by the establishment in acquiring the items are included. Where the company's records did not show actual amounts used, they were asked to approximate use by adding purchases (or receipts) during the year to opening inventory and subtracting closing inventory.

Separate figures were obtained for (a) selected supplies, minerals received for preparation, and purchased machinery installed; (b) electric energy purchased; (c) purchased fuels used for heat, power, or the generation of electricity; (d) contract work done by others; and (e) products bought and resold in the same condition. Supplies and equipment used in mine development, plant expansion, and capitalized repairs, which are chargeable to fixed assets accounts, were included, as were supplies furnished without charge to contractors for use at the mining operation and supplies sold to employees for use at the establishment. No data on such costs as advertising, insurance, telephone, and research and consulting services of other establishments; or on overhead costs, such as depreciation charges, rent, interest, and royalties were included in this item.

Specific Supplies Used and Minerals Prepared--In addition to the total cost of supplies, etc., and purchased machinery which every establishment was required to report, information was also collected on the consumption of major supplies used in mining. These supplies inquiries were restricted to those supplies which were important parts of the cost of production, exploration, and development of a particular industry and for which cost information was available from the firms' records. Information regarding the specific supplies consumed is shown in table 4.

On report forms for almost all mineral industries, except the contract services industries, a uniform inquiry was included on minerals prepared at the reported establish-

ments. Figures were obtained on minerals prepared from three sources: (1) Crude minerals mined at the establishment (quantity); (2) crude minerals received from other establishments of the company or purchased from others (quantity and cost); and (3) crude minerals received for preparation on a custom or toll basis (quantity and estimated value).

Establishments consuming less than a specified amount (usually \$5,000) were not requested to report the cost of a supply separately. Also, the cost of supplies for small establishments for which administrative records were used were imputed as "not specified by kind." (See text for importance of administrative records in the industry.)

Capital Expenditures--In the 1967 census, mining companies were asked to report expenditures made during the year for development and exploration of mineral properties, for new construction, and for machinery purchased at their operations that was chargeable to fixed assets accounts of the mineral establishment and were of a type for which depreciation, depletion, or Office of Minerals Exploration accounts were ordinarily maintained. Capital expenditures during 1967 were to be determined as "additions completed during the year plus construction in progress at the end of the year minus construction in progress at the beginning of the year." Reported capital expenditures were to include work done on contract as well as by the mine forces. Expenditures for machinery and equipment were to include those made for replacement purposes, as well as those for additions to capacity. Excluded from such expenditures totals are costs of maintenance and repairs charged as current operating expense. Also excluded are expenditures for land and mineral rights.

Wherever applicable, separate figures were provided for expenditures for (a) development and exploration of mineral property, (b) preparation plant construction and other construction, (c) new machinery and equipment, and (d) used plant and used equipment acquired from others.

Value of Shipments--The amounts under value of shipments are the values, f.o.b., mine, well, or plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts such as receipts for contract work performed for others, installation and repair, sales of scrap, and sale of products bought and resold without further processing. Included are all items produced by

the establishments and sold, transferred to other plants of the same company, or shipped on consignment.

In the case of multiunit companies, the firm was requested to report the value of products transferred to other establishments of the same company at full economic or commercial value, i.e., include not only the direct costs of production but also a reasonable proportion of "all other costs" (including company overhead) and profit.

Individual Products--In the 1967 Census of Mineral Industries, information on output of about 225 individual mineral product items was collected.

In general, the 1967 and 1963 minerals censuses figures were confined to separate totals for each crude and each prepared mineral. Where significant, separate shipments figures were also obtained for crude minerals going to preparation plants and those going to consumers.

Figures were collected on both quantity and value of shipments. Shipments include commercial shipments and transfers of products to other operations of the same company. For products which are used to a significant extent within the same establishment for power or heat, and for minerals mined and prepared in the same establishment, total production or separate data on production for such uses were collected. Typically, production was also collected for products for which there are usually significant differences between total production and total shipments as a result of stock changes.

For service industries, the amount received or due for services performed during 1967 was collected as a measure of output. For mine operators who also perform services, the amount received for such services was added to the total value of products shipped to determine total value of shipments and receipts for each establishment.

Table 3 of the individual industry reports provides the national and regional total shipments from all industries for each of the products primary to the industries covered in the report.

Shipments and Production--Shipments figures include all products physically shipped from the establishment during 1967, including material withdrawn from stockpiles and products shipped on consignment, whether or not sold in 1967. Prepared material or concentrates include prep-

aration from ores mined at the same establishment, purchased, received from other operations of the same company, or received for milling on a custom or toll basis. For products transferred to other establishments of the same company or prepared on a custom basis, the company was requested to include, in addition to direct costs of production, a reasonable proportion of company overhead and profits.

For industry and industry group totals, some duplication is introduced by the inclusion of materials transferred from one establishment to another for mineral preparation. Wherever value of shipments is shown without further specification, it represents gross shipments.

For years prior to 1954, data on shipments were not collected. Instead, the report forms requested data on the quantity and value of

production. In general, the data for these years were edited to represent net production, excluding duplications due to mining and later preparing the same material in the same industry.

Value Added in Mining--Since the 1954 census, this measure has been computed by subtracting the cost of supplies, etc., and purchased machinery from the sum of value of shipments and receipts and capital expenditures. This statistic avoids the duplication in value of shipments which results from the use of products of some establishments as supplies, energy sources, or materials by others. Moreover, it provides a measure of value added not only in mineral production, but also in the development of mineral properties. For these reasons, it is considered to be the best value measure for comparing the relative economic importance of mining among industries and geographic areas.



1967 Census of MINERAL INDUSTRIES

INDUSTRY SERIES



U.S. DEPARTMENT OF COMMERCE / Bureau of the Census

preliminary report

MIC67(P)-14C-3

Fuller's earth

SIC Code 1454.

The Fuller's Earth Industry includes establishments primarily engaged in mining, milling, or otherwise preparing fuller's earth.

This report includes figures for administrative offices, warehouses, storage facilities, and other auxiliary units which service mining establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions contained in the 1967 edition of the Standard Industrial Classification (SIC) Manual.

In 1967, the value of products shipped and miscellaneous receipts of establishments classified in the Fuller's Earth Industry amounted to \$22.5 million, an increase of 73.1 percent compared with 1963. Value added in mining amounted to \$15.6 million in 1967, an increase of 71.4 percent from 1963. Average employment in the industry showed an increase of 37.5 percent from 1963 to a total of 1.1 thousand employees in 1967.

For an explanation of the terms used in the tables, see appendix at the end of this report.

TABLE 1. General Statistics: 1967 and Earlier Years

(See appendix, "Explanation of Terms")

(See appendix, "Explanation of Terms")

Year	Establishments		All employees		Production, development, and exploration workers			Value added in mining (million dollars)	Cost of supplies, etc., and purchased machinery installed (million dollars)	Value of shipments and receipts (million dollars)	Capital expenditures (million dollars)
	Total	With 20 employ- ees or more	Number	Payroll	Number	Man-hours	Wages				
	(number)	(number)	(1,000)	(million dollars)	(1,000)	(millions)	(million dollars)				
	INDUSTRY 1454.--FULLER'S EARTH										
1967.....	16	11	1.1	5.1	1.0	2.0	4.1	15.6	11.0	22.5	9.1
1963.....	15	9	0.8	3.1	0.7	1.4	2.4	9.1	5.1	13.0	1.2
1958.....	14	6	0.7	2.4	0.5	1.1	1.7	6.0	3.3	8.7	0.6
1954.....	16	6	0.6	1.7	0.5	1.1	1.4	4.2	2.4	6.0	0.5
1939.....	¹ 22	(NA)	0.7	0.7	0.6	1.1	0.4	1.4	² 0.7	2.1	(NA)
1929.....	22	(NA)	1.1	1.2	1.0	(NA)	0.9	3.6	² 1.3	4.8	(NA)
1919.....	9	(NA)	0.9	0.6	0.8	(NA)	0.5	1.4	0.6	2.0	(NA)
1909.....	16	(NA)	0.4	0.2	0.3	(NA)	0.1	0.2	0.1	0.3	(NA)
1902.....	¹ 4	(NA)	0.1	(Z)	³ 0.1	(NA)	(Z)	0.1	(Z)	⁴ 0.1	(NA)

(NA) Not available. (Z) Less than \$50 thousand.

¹Represents number of mines.

²Excludes the cost of minerals received for preparation.

³Figures for average employment were reduced to a 300-day basis for establishments which operated for a shorter period.

⁴Represents value of net shipments and receipts.

TABLE 2. General Statistics, by Geographic Areas: 1967 and 1963

(Geographic data withheld to avoid disclosing figures for individual companies)

TABLE 3. Quantity and Value of Shipments by All Producers, by Geographic Areas: 1967 and 1963

(Includes quantity and value of products reported not only by establishments classified in this industry, but also by establishments classified in other industries, and shipping these products as "secondary" products. See appendix under "Individual Products")

Product code	Product	1967		1963	
		Quantity (1,000 short tons)	Value (million dollars)	Quantity (1,000 short tons)	Value (million dollars)
1454- --	Fuller's earth.....	761.2	19.7	462.0	10.1

Table 4. Selected Supplies, Minerals Received for Preparation, and Purchased Machinery Installed: 1967 and 1963

(See appendix, "Explanation of Terms")

Code	Supplies	Unit of measure	1967		1963	
			Quantity	Cost (million dollars)	Quantity	Cost (million dollars)
	INDUSTRY 1454.--FULLER'S EARTH					
	Selected supplies, minerals received for preparation, and purchased machinery installed, total.....		(X)	7.8	(X)	¹ 3.3
145091	Minerals mined and prepared at same establishment.....	1,000 s. tons.	1,257.5	(X)	777.0	(X)
353011	Purchased machinery installed.....		(X)	4.5	(X)	0.8
	Supplies used:					
289212	Ammonium nitrate.....					
331201	Steel mill shapes and forms.....					
970099	All other supplies.....		(X)	3.3	(X)	¹ 1.5
976000	Selected supplies, minerals received for preparation, and purchased machinery installed, n.a.k. ²					

Note: Detail may not add to the total because of independent rounding.

(X) Not applicable. n.s.k. Not specified by kind.

¹Includes purchases for resale.²This item represents the total cost of supplies for establishments that did not report detailed supplies. For 1967, this also includes estimates for establishments that were not mailed report forms.

SCOPE AND COVERAGE

This report is one of a series presenting preliminary information on industries and products from the 1967 Census of Mineral Industries. The data will be superseded in a final report which in turn will be included in Volume I, Summary and Industry Statistics, 1967 Census of Mineral Industries. That report will include a comprehensive discussion of the concepts and definitions used in the census.

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For oil and gas field operation and contract services, reports were required for units somewhat different from the "establishment" reporting unit used for other types of mining. Every concern which operated oil and gas wells, drilled such wells for its own account or for others, performed exploration work for oil or gas, or performed oil and gas field services for others during any part of calendar year 1967 was required to submit a separate report for each State or for each district within Texas, Louisiana, New Mexico, and California (however, information on employment, oil and gas production, and capital expenditures was requested by county). Further, concerns which supplied contract services for others were required to submit a separate report for each State. (In this instance also, information on employment, receipts for services, and capital expenditures was requested by county.)

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In the 1967 Census of Mineral Industries, data for all single-unit establishments without paid employees were excluded because of the difficulty in

developing a mailing list for these establishments. The exclusion of these establishments has had only a slight effect on industry aggregates for most industries. Data for establishments without employees were included in the 1963, 1958, and 1954 censuses if these establishments reported more than \$500 in one of the following data items: (1) value of shipments and receipts, (2) cost of supplies and purchased machinery, or (3) capital expenditures. In the 1963 census, establishments without paid employees for mining as a whole accounted for approximately 3 percent of value added, while they accounted for less than 1 percent of value added for industry 1454.

As in earlier censuses, a number of small establishments may have been misclassified as to industry. However, such possible misclassifications have no significant effect on the statistics other than the number of establishments. As indicated above, report forms were not mailed to very small establishments (less than 5 employees). The industry classifications for these establishments were assigned on the basis of brief descriptions of the general activity of the establishment. Where the description is incomplete or there are relatively fine lines of demarcation between industries or between mining and nonmining activity, the code assigned to an establishment could differ from that which would have been assigned on the basis of more complete product information. Therefore, the total establishment count should be reviewed as an approximation rather than a precise measurement. The counts of establishments with 20 or more employees are far more reliable than the total number of establishments.

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Appendix

EXPLANATION OF TERMS

(For a more complete discussion of these terms and the method of compiling the Census of Mineral Industries, see the Introduction to the 1963 Census of Mineral Industries, Volume I.)

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Production, Development, and Exploration Worker Man-Hours--The total man-hours figures represent all man-hours that production, development, and exploration workers worked both on active days during which there was production or development work, and inactive days, when only watchmen, inspectors, repairmen, and other maintenance men were on duty. They include all man-hours worked or paid for at the mining operations, except hours paid for vacations, holidays, or sick leave, when the employee was not at the establishment. Included are actual overtime hours, not straight-time equivalent hours. Man-hours of working proprietors or partners are excluded.

Cost of Supplies, etc., and Purchased Machinery--The 1967 census report forms requested information on supplies and purchased machinery installed; fuels and electric energy used; and contract work done by others for each establishment. These items included charges to both the current and capital accounts. The figures reported were to include items used during 1967 whether purchased, withdrawn from inventories, or received from other establishments of the company. For selected supplies and fuels and for electric energy, both quantity and cost data were requested. The cost data refer to direct charges actually paid or payable (after discounts) for items used during the year. Freight charges and other direct charges incurred by the establishment in acquiring the items are included. Where the company's records did not show actual amounts used, they were asked to approximate use by adding purchases (or receipts) during the year to opening inventory and subtracting closing inventory.

Separate figures were obtained for (a) selected supplies, minerals received for preparation, and purchased machinery installed; (b) electric energy purchased; (c) purchased fuels used for heat, power, or the generation of electricity; (d) contract work done by others; and (e) products bought and resold in the same condition. Supplies and equipment used in mine development, plant expansion, and capitalized repairs, which are chargeable to fixed assets accounts, were included, as were supplies furnished without charge to contractors for use at the mining operation and supplies sold to employees for use at the establishment. No data on such costs as advertising, insurance, telephone, and research and consulting services of other establishments; or on overhead costs, such as depreciation charges, rent, interest, and royalties were included in this item.

Specific Supplies Used and Minerals Prepared--In addition to the total cost of supplies, etc., and purchased machinery which every establishment was required to report, information was also collected on the consumption of major supplies used in mining. These supplies inquiries were restricted to those supplies which were important parts of the cost of production, exploration, and development of a particular industry and for which cost information was available from the firms' records. Information regarding the specific supplies consumed is shown in table 4.

On report forms for almost all mineral industries, except the contract services industries, a uniform inquiry was included on minerals prepared at the reported establish-

ments. Figures were obtained on minerals prepared from three sources: (1) Crude minerals mined at the establishment (quantity); (2) crude minerals received from other establishments of the company or purchased from others (quantity and cost); and (3) crude minerals received for preparation on a custom or toll basis (quantity and estimated value).

Establishments consuming less than a specified amount (usually \$5,000) were not requested to report the cost of a supply separately. Also, the cost of supplies for small establishments for which administrative records were used were imputed as "not specified by kind." (See text for importance of administrative records in the industry.)

Capital Expenditures--In the 1967 census, mining companies were asked to report expenditures made during the year for development and exploration of mineral properties, for new construction, and for machinery purchased at their operations that was chargeable to fixed assets accounts of the mineral establishment and were of a type for which depreciation, depletion, or Office of Minerals Exploration accounts were ordinarily maintained. Capital expenditures during 1967 were to be determined as "additions completed during the year plus construction in progress at the end of the year minus construction in progress at the beginning of the year." Reported capital expenditures were to include work done on contract as well as by the mine forces. Expenditures for machinery and equipment were to include those made for replacement purposes, as well as those for additions to capacity. Excluded from such expenditures totals are costs of maintenance and repairs charged as current operating expense. Also excluded are expenditures for land and mineral rights.

Wherever applicable, separate figures were provided for expenditures for (a) development and exploration of mineral property, (b) preparation plant construction and other construction, (c) new machinery and equipment, and (d) used plant and used equipment acquired from others.

Value of Shipments--The amounts under value of shipments are the values, f.o.b., mine, well, or plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts such as receipts for contract work performed for others, installation and repair, sales of scrap, and sale of products bought and resold without further processing. Included are all items produced by

the establishments and sold, transferred to other plants of the same company, or shipped on consignment.

In the case of multiunit companies, the firm was requested to report the value of products transferred to other establishments of the same company at full economic or commercial value, i.e., include not only the direct costs of production but also a reasonable proportion of "all other costs" (including company overhead) and profit.

Individual Products--In the 1967 Census of Mineral Industries, information on output of about 225 individual mineral product items was collected.

In general, the 1967 and 1963 minerals censuses figures were confined to separate totals for each crude and each prepared mineral. Where significant, separate shipments figures were also obtained for crude minerals going to preparation plants and those going to consumers.

Figures were collected on both quantity and value of shipments. Shipments include commercial shipments and transfers of products to other operations of the same company. For products which are used to a significant extent within the same establishment for power or heat, and for minerals mined and prepared in the same establishment, total production or separate data on production for such uses were collected. Typically, production was also collected for products for which there are usually significant differences between total production and total shipments as a result of stock changes.

For service industries, the amount received or due for services performed during 1967 was collected as a measure of output. For mine operators who also perform services, the amount received for such services was added to the total value of products shipped to determine total value of shipments and receipts for each establishment.

Table 3 of the individual industry reports provides the national and regional total shipments from all industries for each of the products primary to the industries covered in the report.

Shipments and Production--Shipments figures include all products physically shipped from the establishment during 1967, including material withdrawn from stockpiles and products shipped on consignment, whether or not sold in 1967. Prepared material or concentrates include prep-

aration from ores mined at the same establishment, purchased, received from other operations of the same company, or received for milling on a custom or toll basis. For products transferred to other establishments of the same company or prepared on a custom basis, the company was requested to include, in addition to direct costs of production, a reasonable proportion of company overhead and profits.

For industry and industry group totals, some duplication is introduced by the inclusion of materials transferred from one establishment to another for mineral preparation. Wherever value of shipments is shown without further specification, it represents gross shipments.

For years prior to 1954, data on shipments were not collected. Instead, the report forms requested data on the quantity and value of

production. In general, the data for these years were edited to represent net production, excluding duplications due to mining and later preparing the same material in the same industry.

Value Added in Mining--Since the 1954 census, this measure has been computed by subtracting the cost of supplies, etc., and purchased machinery from the sum of value of shipments and receipts and capital expenditures. This statistic avoids the duplication in value of shipments which results from the use of products of some establishments as supplies, energy sources, or materials by others. Moreover, it provides a measure of value added not only in mineral production, but also in the development of mineral properties. For these reasons, it is considered to be the best value measure for comparing the relative economic importance of mining among industries and geographic areas.

U.S. DEPARTMENT OF COMMERCE
Bureau of the Census
Washington, D.C. 20233

OFFICIAL BUSINESS



POSTAGE AND FEES PAID
U.S. DEPARTMENT OF COMMERCE



1967 Census of MINERAL INDUSTRIES

INDUSTRY SERIES



U.S. DEPARTMENT OF COMMERCE / Bureau of the Census

preliminary report

MIC67(P)-14C-4

Kaolin and ball clay

SIC Code 1455

The Kaolin and Ball Clay Industry includes establishments primarily engaged in mining, milling, or otherwise preparing kaolin or ball clay, including china clay, paper clay, and slip clay.

This report includes figures for administrative offices, warehouses, storage facilities, and other auxiliary units which service mining establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions contained in the 1967 edition of the Standard Industrial Classification (SIC) Manual.

In 1967, the value of products shipped and miscellaneous receipts of establishments classified in the Kaolin and Ball Clay Industry amounted to \$88.0 million, an increase of 33.1 percent compared with 1963. Value added in mining amounted to \$65.2 million in 1967, an increase of 30.9 percent from 1963. Average employment in the industry showed an increase of 12.1 percent from 1963 to a total of 3.7 thousand employees in 1967.

For an explanation of the terms used in the tables, see appendix at the end of this report.

TABLE 1. General Statistics: 1967 and Earlier Years

(See appendix, "Explanation of Terms")

Year	Establishments		All employees		Production, development, and exploration workers			Value added in mining (million dollars)	Cost of supplies, etc., and purchased machinery installed (million dollars)	Value of shipments and receipts (million dollars)	Capital expenditures (million dollars)
	Total	With 20 employ- ees or more	Number	Payroll	Number	Man-hours	Wages				
	(number)	(number)	(1,000)	(million dollars)	(1,000)	(millions)	(million dollars)				
	INDUSTRY 1455.--KAOLIN AND BALL CLAY										
1967.....	63	34	3.7	24.1	2.9	6.4	16.7	65.2	34.4	88.0	11.6
1963.....	48	28	3.3	17.7	2.9	6.1	14.5	49.8	21.5	66.1	5.2
1958.....	53	26	3.4	14.0	2.7	5.7	9.7	31.0	15.6	42.4	4.2
1954 ¹	54	28	3.1	9.9	2.8	6.2	8.1	25.2	10.9	31.9	4.3
1939 ^{1, 2}	³ 95	(NA)	3.4	2.5	3.2	6.0	1.8	5.4	⁴ 1.8	⁵ 7.2	(NA)
1889.....	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	⁵ 0.6	(NA)
1880.....	³ 9	(NA)	0.3	0.1	(NA)	(NA)	(NA)	0.2	(Z)	⁵ 0.2	(NA)

(NA) Not available. (Z) Less than \$50 thousand.

¹For 1954, in addition to these establishments, 8 mines included in establishments classified in the manufacturing industries were reported. These mines produced and used in the same establishment 104 thousand tons of kaolin and ball clay, valued at approximately \$1,532 thousand. Man-hours worked by production, development, and exploration workers at these mines were 46 thousand; payroll, \$59 thousand; and cost of supplies, fuels, and purchased electric energy and contract work, \$33 thousand. For 1939, includes data for 18 mines included in establishments classified in the manufacturing industries. These mines had products valued at \$362 thousand; with total employment of 197, of which 178 were production, development, and exploration workers; the corresponding payrolls were \$119 thousand and \$87 thousand, respectively; and cost of supplies, fuel, purchased electric energy and contract work was \$77 thousand.

²For 1939, establishments primarily producing rotary drilling muds were classified in the Kaolin and Ball Clay Industry. For later years, all clays were classified by type rather than by use and establishments primarily producing rotary drilling muds in that year were probably classified in the Bentonite Industry or the Clay and Related Minerals, N.E.C., Industry. For census years prior to 1939, according to the U.S. Bureau of Mines, there was no production of bentonite.

³Represents number of mines.

⁴Excludes the cost of minerals received for preparation and purchased machinery installed.

⁵Represents the value of net shipments and receipts.

TABLE 2. General Statistics, by Geographic Areas: 1967 and 1963

(See appendix, "Explanation of Terms")

(See appendix, "Explanation of Terms")

Geographic area	1967										1963		
	Establishments		All employees		Production, development, and exploration workers			Value added in mining (million dollars)	Cost of supplies, etc., and purchased machinery installed (million dollars)	Value of shipments and receipts (million dollars)	Capital expenditures (million dollars)	All employees (1,000)	Value added in mining (million dollars)
	Total	With 20 employ-ees or more	Number	Payroll	Number	Man-hours	Wages						
	(number)	(number)	(1,000)	(million dollars)	(1,000)	(millions)	(million dollars)						
INDUSTRY 1455.--KAOLIN AND BALL CLAY													
United States, total.	63	34	3.7	24.1	2.9	6.4	16.7	65.2	34.4	88.0	11.6	3.3	49.8
Northeast, North Central and South Atlantic.....	44	25	3.2	20.8	2.4	5.4	14.0	56.4	30.7	76.2	10.9	2.8	42.6
South Carolina.....	5	5	0.4	1.8	0.3	0.6	1.4	4.6	3.0	7.2	0.3	(NA)	(NA)
Georgia.....	27	15	2.5	16.1	2.0	4.6	12.2	51.0	27.3	67.8	10.5	2.3	37.3
East South Central and West South Central.....	13	7	0.4	2.1	0.3	0.7	1.5	7.2	2.6	9.1	0.7	0.4	5.9
Tennessee.....	6	4	0.2	1.3	0.2	0.4	0.9	3.7	1.5	4.9	0.3	0.2	3.6
West.....	6	2	0.2	1.3	0.2	0.3	1.2	1.7	1.0	2.6	(2)	0.2	1.4

Note: Detail may not add to the total because of independent rounding.

(NA) Not available. (2) Less than \$50 thousand.

TABLE 3. Quantity and Value of Shipments by All Producers: 1967 and 1963

(Includes quantity and value of products reported not only by establishments classified in this industry, but also by establishments classified in other industries, and shipping these products as "secondary" products. See appendix under "Individual Products")

Product code	Product and geographic area	1967		1963	
		Quantity (1,000 short tons)	Value (million dollars)	Quantity (1,000 short tons)	Value (million dollars)
1455- --	KAOLIN AND CLAY, TOTAL.....	(X)	93.8	(X)	67.3
	UNITED STATES				
14551 01	Crude kaolin and ball clay net shipments ¹	415.3	3.1	331.0	2.4
14552 01	Prepared kaolin and ball clay shipped, including interplant transfers.....	4,303.9	90.7	3,269.0	64.9
	SOUTH ATLANTIC				
14551 01	Crude kaolin and ball clay net shipments ¹	² 191.1	² 0.9	-	-
14552 01	Prepared kaolin and ball clay shipped, including interplant transfers.....	3,673.2	81.4	(NA)	(NA)
	Georgia:				
14551 01	Crude kaolin and ball clay net shipments ¹	3,331.3	73.8	2,326.0	50.5
14552 01	Prepared kaolin and ball clay shipped, including interplant transfers....				
	EAST SOUTH CENTRAL AND WEST SOUTH CENTRAL				
14551 01	Crude kaolin and ball clay net shipments ¹	763.0	8.8	584.0	7.7
14552 01	Prepared kaolin and ball clay shipped, including interplant transfers.....				
	Tennessee:				
14551 01	Crude kaolin and ball clay net shipments ¹	356.1	4.9	321.0	4.7
14552 01	Prepared kaolin and ball clay shipped, including interplant transfers...				
	WEST				
14551 01	Crude kaolin and ball clay net shipments ¹	92.0	2.7	(NA)	(NA)
14552 01	Prepared kaolin and ball clay shipped, including interplant transfers.....				

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- Represents zero. (NA) Not available. (X) Not applicable.

¹Represents gross shipments less receipts from other establishments of crude materials for preparation.²Includes figures for Pennsylvania.

Table 4. Selected Supplies, Minerals Received for Preparation, and Purchased Machinery Installed: 1967 and 1963

(See appendix, "Explanation of Terms")

Code	Supplies	Unit of measure	1967		1963	
			Quantity	Cost (million dollars)	Quantity	Cost (million dollars)
	INDUSTRY 1455.--KAOLIN AND BALL CLAY					
	Selected supplies, minerals received for preparation, and purchased machinery installed, total.....		(X)	27.5	(X)	¹ 15.7
145091	Minerals mined and received for preparation:					
	Mined and prepared at same establishment.....	1,000 short tons	6,058.1	(X)	4,923.0	(X)
	Received for preparation.....	do.....	43.7	0.2		(²)
353011	Purchased machinery installed.....		(X)	11.0	(X)	3.8
	Supplies used:					
289211	Explosive materials, except ammonium nitrate.....	1,000 pounds..	391.0	0.1	(X)	¹ 211.9
289212	Ammonium nitrate.....	do.....				
289214	Blasting accessories.....		(X)			
331201	Steel mill shapes and forms.....					
970099	All other supplies.....					
976000	Selected supplies, minerals received for preparation, and purchased machinery installed, n.s.k. ³		(X)	16.3		

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Production, Development, and Exploration Worker Man-Hours--The total man-hours figures represent all man-hours that production, development, and exploration workers worked both on active days during which there was production or development work, and inactive days, when only watchmen, inspectors, repairmen, and other maintenance men were on duty. They include all man-hours worked or paid for at the mining operations, except hours paid for vacations, holidays, or sick leave, when the employee was not at the establishment. Included are actual overtime hours, not straight-time equivalent hours. Man-hours of working proprietors or partners are excluded.

Cost of Supplies, etc., and Purchased Machinery--The 1967 census report forms requested information on supplies and purchased machinery installed; fuels and electric energy used; and contract work done by others for each establishment. These items included charges to both the current and capital accounts. The figures reported were to include items used during 1967 whether purchased, withdrawn from inventories, or received from other establishments of the company. For selected supplies and fuels and for electric energy, both quantity and cost data were requested. The cost data refer to direct charges actually paid or payable (after discounts) for items used during the year. Freight charges and other direct charges incurred by the establishment in acquiring the items are included. Where the company's records did not show actual amounts used, they were asked to approximate use by adding purchases (or receipts) during the year to opening inventory and subtracting closing inventory.

Separate figures were obtained for (a) selected supplies, minerals received for preparation, and purchased machinery installed; (b) electric energy purchased; (c) purchased fuels used for heat, power, or the generation of electricity; (d) contract work done by others; and (e) products bought and resold in the same condition. Supplies and equipment used in mine development, plant expansion, and capitalized repairs, which are chargeable to fixed assets accounts, were included, as were supplies furnished without charge to contractors for use at the mining operation and supplies sold to employees for use at the establishment. No data on such costs as advertising, insurance, telephone, and research and consulting services of other establishments; or on overhead costs, such as depreciation charges, rent, interest, and royalties were included in this item.

Specific Supplies Used and Minerals Prepared--In addition to the total cost of supplies, etc., and purchased machinery which every establishment was required to report, information was also collected on the consumption of major supplies used in mining. These supplies inquiries were restricted to those supplies which were important parts of the cost of production, exploration, and development of a particular industry and for which cost information was available from the firms' records. Information regarding the specific supplies consumed is shown in table 4.

On report forms for almost all mineral industries, except the contract services industries, a uniform inquiry was included on minerals prepared at the reported establish-

ments. Figures were obtained on minerals prepared from three sources: (1) Crude minerals mined at the establishment (quantity); (2) crude minerals received from other establishments of the company or purchased from others (quantity and cost); and (3) crude minerals received for preparation on a custom or toll basis (quantity and estimated value).

Establishments consuming less than a specified amount (usually \$5,000) were not requested to report the cost of a supply separately. Also, the cost of supplies for small establishments for which administrative records were used were imputed as "not specified by kind." (See text for importance of administrative records in the industry.)

Capital Expenditures--In the 1967 census, mining companies were asked to report expenditures made during the year for development and exploration of mineral properties, for new construction, and for machinery purchased at their operations that was chargeable to fixed assets accounts of the mineral establishment and were of a type for which depreciation, depletion, or Office of Minerals Exploration accounts were ordinarily maintained. Capital expenditures during 1967 were to be determined as "additions completed during the year plus construction in progress at the end of the year minus construction in progress at the beginning of the year." Reported capital expenditures were to include work done on contract as well as by the mine forces. Expenditures for machinery and equipment were to include those made for replacement purposes, as well as those for additions to capacity. Excluded from such expenditures totals are costs of maintenance and repairs charged as current operating expense. Also excluded are expenditures for land and mineral rights.

Wherever applicable, separate figures were provided for expenditures for (a) development and exploration of mineral property, (b) preparation plant construction and other construction, (c) new machinery and equipment, and (d) used plant and used equipment acquired from others.

Value of Shipments--The amounts under value of shipments are the values, f.o.b., mine, well, or plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts such as receipts for contract work performed for others, installation and repair, sales of scrap, and sale of products bought and resold without further processing. Included are all items produced by

the establishments and sold, transferred to other plants of the same company, or shipped on consignment.

In the case of multiunit companies, the firm was requested to report the value of products transferred to other establishments of the same company at full economic or commercial value, i.e., include not only the direct costs of production but also a reasonable proportion of "all other costs" (including company overhead) and profit.

Individual Products--In the 1967 Census of Mineral Industries, information on output of about 225 individual mineral product items was collected.

In general, the 1967 and 1963 minerals censuses figures were confined to separate totals for each crude and each prepared mineral. Where significant, separate shipments figures were also obtained for crude minerals going to preparation plants and those going to consumers.

Figures were collected on both quantity and value of shipments. Shipments include commercial shipments and transfers of products to other operations of the same company. For products which are used to a significant extent within the same establishment for power or heat, and for minerals mined and prepared in the same establishment, total production or separate data on production for such uses were collected. Typically, production was also collected for products for which there are usually significant differences between total production and total shipments as a result of stock changes.

For service industries, the amount received or due for services performed during 1967 was collected as a measure of output. For mine operators who also perform services, the amount received for such services was added to the total value of products shipped to determine total value of shipments and receipts for each establishment.

Table 3 of the individual industry reports provides the national and regional total shipments from all industries for each of the products primary to the industries covered in the report.

Shipments and Production--Shipments figures include all products physically shipped from the establishment during 1967, including material withdrawn from stockpiles and products shipped on consignment, whether or not sold in 1967. Prepared material or concentrates include prep-

aration from ores mined at the same establishment, purchased, received from other operations of the same company, or received for milling on a custom or toll basis. For products transferred to other establishments of the same company or prepared on a custom basis, the company was requested to include, in addition to direct costs of production, a reasonable proportion of company overhead and profits.

For industry and industry group totals, some duplication is introduced by the inclusion of materials transferred from one establishment to another for mineral preparation. Wherever value of shipments is shown without further specification, it represents gross shipments.

For years prior to 1954, data on shipments were not collected. Instead, the report forms requested data on the quantity and value of

production. In general, the data for these years were edited to represent net production, excluding duplications due to mining and later preparing the same material in the same industry.

Value Added in Mining--Since the 1954 census, this measure has been computed by subtracting the cost of supplies, etc., and purchased machinery from the sum of value of shipments and receipts and capital expenditures. This statistic avoids the duplication in value of shipments which results from the use of products of some establishments as supplies, energy sources, or materials by others. Moreover, it provides a measure of value added not only in mineral production, but also in the development of mineral properties. For these reasons, it is considered to be the best value measure for comparing the relative economic importance of mining among industries and geographic areas.

U.S. DEPARTMENT OF COMMERCE
Bureau of the Census
Washington, D.C. 20233

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1967 Census of MINERAL INDUSTRIES

INDUSTRY SERIES



U.S. DEPARTMENT OF COMMERCE / Bureau of the Census

preliminary report

MIC67(P)-14C-5

Feldspar

SIC Code 1456

The Feldspar Industry includes establishments primarily engaged in mining, milling, grinding, or otherwise preparing feldspar. Establishments engaged in grinding feldspar which do not include a mine are classified in the manufacturing industry 3295, Minerals and Earths, Ground or Otherwise Treated.

This report includes figures for administrative offices, warehouses, storage facilities, and other auxiliary units which service mining establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions contained in the 1967 edition of

the Standard Industrial Classification (SIC) Manual.

In 1967, the value of products shipped and miscellaneous receipts of establishments classified in the Feldspar Industry amounted to \$9.4 million, an increase of 10.6 percent compared with 1963. Value added in mining amounted to \$6.6 million in 1967, an increase of 8.2 percent from 1963. Average employment in the industry in 1967 was 0.5 thousand, approximately the same as 1963.

For an explanation of the terms used in the tables, see appendix at the end of this report.

TABLE 1. General Statistics: 1967 and Earlier Years

(See appendix, "Explanation of Terms")

Year	Establishments		All employees		Production, development, and exploration workers			Value added in mining (million dollars)	Cost of supplies, etc., and purchased machinery installed (million dollars)	Value of shipments and receipts (million dollars)	Capital expenditures (million dollars)
	Total	With 20 employees or more	Number	Payroll	Number	Man-hours	Wages				
	(number)	(number)	(1,000)	(million dollars)	(1,000)	(millions)	(million dollars)				
	INDUSTRY 1456.--FELDSPAR										
1967.....	17	9	0.5	2.6	0.4	0.9	2.0	6.6	3.4	9.4	0.5
1963.....	31	10	0.5	2.6	0.4	0.9	1.7	6.1	4.0	8.5	1.7
1958.....	74	10	0.6	1.9	0.5	1.0	1.5	4.5	3.7	6.9	1.3
1954.....	84	10	0.6	1.7	0.6	1.2	1.5	4.0	3.0	6.7	0.4
1939 ¹	² 59	(NA)	0.6	0.5	0.5	1.0	0.4	0.9	³ 0.1	⁴ 1.0	(NA)
1929 ¹	51	(NA)	0.7	0.7	0.6	(NA)	0.5	1.6	³ 0.4	⁴ 1.9	(NA)
1919.....	30	(NA)	0.4	0.3	0.3	(NA)	0.3	0.4	0.1	0.6	(NA)
1909 ¹	22	(NA)	0.3	0.1	0.2	(NA)	0.1	0.2	0.1	0.3	(NA)
1902.....	² 27	(NA)	0.3	0.1	³ 0.3	(NA)	0.1	0.2	³ 0.1	⁴ 0.3	(NA)
1889.....	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(Z)	(NA)
1880.....	² 14	(NA)	0.1	(Z)	(NA)	(NA)	(NA)	0.1	(Z)	0.1	(NA)

(NA) Not available. (Z) Less than \$50 thousand.

¹Excludes nonproducing establishments as follows: for 1939, 1 mine and 1 plant; for 1929, 3 establishments; for 1909, 1 establishment.

²Represents number of mines.

³Excludes cost of minerals received for preparation.

⁴Represents value of net shipments and receipts.

TABLE 2. General Statistics, by Geographic Areas: 1967 and 1963

(See appendix, "Explanation of Terms")

(See appendix, "Explanation of Terms.")

Geographic area	1967											1963	
	Establishments		All employees		Production, development, and exploration workers			Value added in mining	Cost of supplies, etc., and purchased machinery installed	Value of shipments and receipts	Capital expenditures	All employees	Value added in mining
	Total	With 20 employees or more	Number	Payroll	Number	Man-hours	Wages						
	(number)	(number)	(1,000)	(million dollars)	(1,000)	(millions)	(million dollars)						
	(million dollars)	(million dollars)	(million dollars)	(million dollars)	(million dollars)	(million dollars)	(million dollars)	(million dollars)	(1,000)	(million dollars)			
	INDUSTRY 1456.--FELDSPAR												
United States.....	17	9	0.5	2.6	0.4	0.9	2.0	6.6	3.4	9.4	0.5	0.5	6.1
South Atlantic.....	7	6	0.3	1.5	0.3	0.6	1.2	3.8	2.5	6.1	0.3	(NA)	(NA)

(NA) Not available.

TABLE 3. Quantity and Value of Shipments by All Producers, by Geographic Areas: 1967 and 1963

(Includes quantity and value of products reported not only by establishments classified in this industry, but also by establishments classified in other industries, and shipping these products as "secondary" products. See appendix under "Individual Products")

Product code	Product and geographic area	1967		1963	
		Quantity	Value	Quantity	Value
		(1,000 short tons)	(million dollars)	(1,000 short tons)	(million dollars)
1456--	Feldspar, total.....	(X)	9.1	(X)	8.3
14561 01	Crude feldspar shipped.....	12.6	0.1	25.0	0.1
14562 01	Prepared feldspar shipped.....	642.2	9.0	593.0	8.1
	SOUTH ATLANTIC				
14562 01	Prepared feldspar shipped.....	416.4	5.5	(NA)	(NA)

Note: Detail may not add to total because of independent rounding.

(X) Not applicable. (NA) Not available.

Table 4. Selected Supplies, Minerals Received for Preparation, and Purchased Machinery Installed: 1967 and 1963

(See appendix, "Explanation of Terms")

Code	Supplies	Unit of measure	1967		1963			
			Quantity	Value (million dollars)	Quantity	Value (million dollars)		
	INDUSTRY 1456.--FELDSPAR							
	Selected supplies, minerals received for preparation, and purchased machinery installed, total.....	.....	(X)	2.0	(X)	2.7	
145091	Minerals received for preparation: Mined and prepared at same establishment..... Received for preparation.....	1,000 s. tons. do.....	1,197.2	{ (X) (1)	1,035.0	{ (X) (1)		
353011	Purchased machinery installed.....					(X)	0.3	0.7
	Supplies used:							
28921- 331201 970099	Explosive materials and blasting accessories..... Steel mill shapes and forms..... All other supplies.....	..... ..... .....	{ (X)	1.5	{ (X)	1.9	
976000	Selected supplies, minerals received for preparation, and purchased machinery installed, n.s.k. ²					(X)	0.1

Note: Detail may not add to total because of independent rounding.

(X) Not applicable. n.s.k. Not specified by kind.

¹Cost of minerals received for preparation is included with all other supplies.²This item represents the cost of supplies for establishments that did not report detailed supplies. For 1967, this also includes estimates for establishments that were not mailed report forms.

SCOPE AND COVERAGE

This report is one of a series presenting preliminary information on industries and products from the 1967 Census of Mineral Industries. The data will be superseded in a final report which in turn will be included in Volume 1, Summary and Industry Statistics, 1967 Census of Mineral Industries. That report will include a comprehensive discussion of the concepts and definitions used in the census.

The census of mineral industries covers each mining establishment of firms in the United States with one or more paid employees. Firms which operate more than one establishment were required to file a separate report for each location. Companies which engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation and the activities were of significant size.

For oil and gas field operation and contract services, reports were required for units somewhat different from the "establishment" reporting unit used for other types of mining. Every concern which operated oil and gas wells, drilled such wells for its own account or for others, performed exploration work for oil or gas, or performed oil and gas field services for others during any part of calendar year 1967 was required to submit a separate report for each State or for each district within Texas, Louisiana, New Mexico, and California (however, information on employment, oil and gas production, and capital expenditures was requested by county). Further, concerns which supplied contract services for others were required to submit a separate report for each State. (In this instance also, information on employment, receipts for services, and capital expenditures was requested by county.)

In the 1967 census, for the first time, approximately 10,000 single-unit establishments with 1 to 4 employees were excused from filing reports. Under special arrangements which safeguarded the confidentiality of both tax and census records, limited data on payrolls, sales, and industry classification from the administrative records of the Social Security Administration and the Internal Revenue Service were made available to the Census Bureau for use in the 1967 censuses of business, manufactures, and mineral industries. Estimates for data other than payrolls and sales for these small establishments were constructed from industry averages. The effect on industry aggregates is slight in most industries. For mining as a whole, they account for less than 1 percent of value added. In industry 1456, these small establishments accounted for less than 1 percent of value added.

In the 1967 Census of Mineral Industries, data for all single-unit establishments without paid employees were excluded because of the difficulty in

developing a mailing list for these establishments. The exclusion of these establishments has had only a slight effect on industry aggregates for most industries. Data for establishments without employees were included in the 1963, 1958, and 1954 censuses if these establishments reported more than \$500 in one of the following data items: (1) value of shipments and receipts, (2) cost of supplies and purchased machinery, or (3) capital expenditures. In the 1963 census, establishments without paid employees for mining as a whole accounted for approximately 3 percent of value added, while they accounted for less than 1 percent of value added for industry 1456.

As in earlier censuses, a number of small establishments may have been misclassified as to industry. However, such possible misclassifications have no significant effect on the statistics other than the number of establishments. As indicated above, report forms were not mailed to very small establishments (less than 5 employees). The industry classifications for these establishments were assigned on the basis of brief descriptions of the general activity of the establishment. Where the description is incomplete or there are relatively fine lines of demarcation between industries or between mining and nonmining activity, the code assigned to an establishment could differ from that which would have been assigned on the basis of more complete product information. Therefore, the total establishment count should be reviewed as an approximation rather than a precise measurement. The counts of establishments with 20 or more employees are far more reliable than the total number of establishments.

More detailed figures for this industry will appear in the final census reports. Final reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each mineral industry and for each State are being issued. Final industry reports and final area reports will be published during the spring and fall of 1970. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C. 20233.

The 1967 Census of Mineral Industries is the 16th census of mineral establishments in the United States. For 1967, it was conducted jointly with the censuses of manufactures, retail trade, wholesale trade, and selected services under authority of Title 13 of the United States Code. Title 13 specified that a census of mineral industries be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7."

Appendix

EXPLANATION OF TERMS

(For a more complete discussion of these terms and the method of compiling the Census of Mineral Industries, see the Introduction to the 1963 Census of Mineral Industries, Volume I.)

All Employees--All full-time and part-time employees on the payrolls of operating mineral establishments for any part of the pay period ended nearest the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of the corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The number of production workers is the average of those for mid-month payroll periods of March, May, August, and November. The "all employee" number is the average number of production workers plus the number of other employees in mid-March.

Payroll--This item includes all forms of compensation such as salaries, wages, commissions, dismissal pay, all bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' Social Security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of these establishments, if a corporation; it excludes payments to the proprietor or partners, if an unincorporated concern. Respondents were told that in reporting they could follow the definition of payroll used for calculating the Federal withholding tax.

Production, Development, and Exploration Worker Man-Hours--The total man-hours figures represent all man-hours that production, development, and exploration workers worked both on active days during which there was production or development work, and inactive days, when only watchmen, inspectors, repairmen, and other maintenance men were on duty. They include all man-hours worked or paid for at the mining operations, except hours paid for vacations, holidays, or sick leave, when the employee was not at the establishment. Included are actual overtime hours, not straight-time equivalent hours. Man-hours of working proprietors or partners are excluded.

Cost of Supplies, etc., and Purchased Machinery--The 1967 census report forms requested information on supplies and purchased machinery installed; fuels and electric energy used; and contract work done by others for each establishment. These items included charges to both the current and capital accounts. The figures reported were to include items used during 1967 whether purchased, withdrawn from inventories, or received from other establishments of the company. For selected supplies and fuels and for electric energy, both quantity and cost data were requested. The cost data refer to direct charges actually paid or payable (after discounts) for items used during the year. Freight charges and other direct charges incurred by the establishment in acquiring the items are included. Where the company's records did not show actual amounts used, they were asked to approximate use by adding purchases (or receipts) during the year to opening inventory and subtracting closing inventory.

Separate figures were obtained for (a) selected supplies, minerals received for preparation, and purchased machinery installed; (b) electric energy purchased; (c) purchased fuels used for heat, power, or the generation of electricity; (d) contract work done by others; and (e) products bought and resold in the same condition. Supplies and equipment used in mine development, plant expansion, and capitalized repairs, which are chargeable to fixed assets accounts, were included, as were supplies furnished without charge to contractors for use at the mining operation and supplies sold to employees for use at the establishment. No data on such costs as advertising, insurance, telephone, and research and consulting services of other establishments; or on overhead costs, such as depreciation charges, rent, interest, and royalties were included in this item.

Specific Supplies Used and Minerals Prepared--In addition to the total cost of supplies, etc., and purchased machinery which every establishment was required to report, information was also collected on the consumption of major supplies used in mining. These supplies inquiries were restricted to those supplies which were important parts of the cost of production, exploration, and development of a particular industry and for which cost information was available from the firms' records. Information regarding the specific supplies consumed is shown in table 4.

On report forms for almost all mineral industries, except the contract services industries, a uniform inquiry was included on minerals prepared at the reported establish-

ments. Figures were obtained on minerals prepared from three sources: (1) Crude minerals mined at the establishment (quantity); (2) crude minerals received from other establishments of the company or purchased from others (quantity and cost); and (3) crude minerals received for preparation on a custom or toll basis (quantity and estimated value).

Establishments consuming less than a specified amount (usually \$5,000) were not requested to report the cost of a supply separately. Also, the cost of supplies for small establishments for which administrative records were used were imputed as "not specified by kind." (See text for importance of administrative records in the industry.)

Capital Expenditures--In the 1967 census, mining companies were asked to report expenditures made during the year for development and exploration of mineral properties, for new construction, and for machinery purchased at their operations that was chargeable to fixed assets accounts of the mineral establishment and were of a type for which depreciation, depletion, or Office of Minerals Exploration accounts were ordinarily maintained. Capital expenditures during 1967 were to be determined as "additions completed during the year plus construction in progress at the end of the year minus construction in progress at the beginning of the year." Reported capital expenditures were to include work done on contract as well as by the mine forces. Expenditures for machinery and equipment were to include those made for replacement purposes, as well as those for additions to capacity. Excluded from such expenditures totals are costs of maintenance and repairs charged as current operating expense. Also excluded are expenditures for land and mineral rights.

Wherever applicable, separate figures were provided for expenditures for (a) development and exploration of mineral property, (b) preparation plant construction and other construction, (c) new machinery and equipment, and (d) used plant and used equipment acquired from others.

Value of Shipments--The amounts under value of shipments are the values, f.o.b., mine, well, or plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts such as receipts for contract work performed for others, installation and repair, sales of scrap, and sale of products bought and resold without further processing. Included are all items produced by

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Individual Products--In the 1967 Census of Mineral Industries, information on output of about 225 individual mineral product items was collected.

In general, the 1967 and 1963 minerals censuses figures were confined to separate totals for each crude and each prepared mineral. Where significant, separate shipments figures were also obtained for crude minerals going to preparation plants and those going to consumers.

Figures were collected on both quantity and value of shipments. Shipments include commercial shipments and transfers of products to other operations of the same company. For products which are used to a significant extent within the same establishment for power or heat, and for minerals mined and prepared in the same establishment, total production or separate data on production for such uses were collected. Typically, production was also collected for products for which there are usually significant differences between total production and total shipments as a result of stock changes.

For service industries, the amount received or due for services performed during 1967 was collected as a measure of output. For mine operators who also perform services, the amount received for such services was added to the total value of products shipped to determine total value of shipments and receipts for each establishment.

Table 3 of the individual industry reports provides the national and regional total shipments from all industries for each of the products primary to the industries covered in the report.

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aration from ores mined at the same establishment, purchased, received from other operations of the same company, or received for milling on a custom or toll basis. For products transferred to other establishments of the same company or prepared on a custom basis, the company was requested to include, in addition to direct costs of production, a reasonable proportion of company overhead and profits.

For industry and industry group totals, some duplication is introduced by the inclusion of materials transferred from one establishment to another for mineral preparation. Wherever value of shipments is shown without further specification, it represents gross shipments.

For years prior to 1954, data on shipments were not collected. Instead, the report forms requested data on the quantity and value of

production. In general, the data for these years were edited to represent net production, excluding duplications due to mining and later preparing the same material in the same industry.

Value Added in Mining--Since the 1954 census, this measure has been computed by subtracting the cost of supplies, etc., and purchased machinery from the sum of value of shipments and receipts and capital expenditures. This statistic avoids the duplication in value of shipments which results from the use of products of some establishments as supplies, energy sources, or materials by others. Moreover, it provides a measure of value added not only in mineral production, but also in the development of mineral properties. For these reasons, it is considered to be the best value measure for comparing the relative economic importance of mining among industries and geographic areas.

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1967 Census of MINERAL INDUSTRIES

INDUSTRY SERIES



U.S. DEPARTMENT OF COMMERCE / Bureau of the Census

preliminary report

MIC67(P)-14C-6

Clay and related minerals, n.e.c.

SIC Code 1459

The Clay, Ceramic, and Refractory Minerals, Not Elsewhere Classified, Industry includes establishments primarily engaged in mining, milling, or otherwise preparing clay, ceramic, and refractory minerals, not elsewhere classified, such as common clay and shale, andalusite, aplite, brucite, dumortierite, kyanite, laterite, magnesite, olivine, pinite, sillimanite, and topaz (nongem). Establishments producing common clay and shale in conjunction with the manufacture of structural clay products are classified in Major Group 32, Stone, Clay, Glass, and Concrete Products. In 1967, such combination mining and manufacturing establishments were included in the following manufacturing industries: 3241, Cement, Hydraulic; 3251, Brick and Structural Clay Tile; 3253, Ceramic Wall and Floor Tile;

and 3259, Structural Clay Products, Not Elsewhere Classified.

In 1967, the value of products shipped and miscellaneous receipts of establishments classified in the Clay, Ceramic, and Refractory Minerals, N.E.C., Industry amounted to \$53.9 million, an increase of 38.6 percent compared with 1963. Value added in mining amounted to \$35.9 million in 1967, an increase of 46.5 percent from 1963. Average employment in the industry showed an increase of 15.0 percent from 1963 to a total of 2.3 thousand employees in 1967.

For an explanation of the terms used in the tables, see appendix at the end of this report.

TABLE 1. General Statistics: 1967 and Earlier Years

(See appendix, "Explanation of Terms")

Year	Establishments		All employees		Production, development, and exploration workers			Value added in mining	Cost of supplies, etc., and purchased machinery installed	Value of shipments and receipts	Capital expenditures
	Total	With 20 employees or more	Number	Payroll	Number	Man-hours	Wages				
	(number)	(number)	(1,000)	(million dollars)	(1,000)	(millions)	(million dollars)	(million dollars)	(million dollars)	(million dollars)	(million dollars)
	INDUSTRY 1459.--CLAY AND RELATED MINERALS, N.E.C.										
1967.....	127	38	2.3	15.3	2.0	4.4	12.4	35.9	23.5	53.9	5.6
1963.....	130	34	2.0	10.7	1.7	3.6	8.5	24.5	17.5	38.9	3.0
1958.....	126	36	2.0	8.9	1.7	3.7	7.0	19.1	14.1	29.3	4.0
1954 ¹	187	22	1.3	4.4	1.2	2.4	3.9	11.2	5.9	15.2	1.9
1939 ²	³ 71	(NA)	0.7	0.8	0.7	(NA)	0.7	2.0	⁴ 0.3	⁵ 2.3	(NA)

(NA) Not available.

¹For 1954, and possibly for earlier years, excludes data for associated magnesite calcining operations.

²For 1939, establishments primarily producing rotary drilling muds were classified in the Kaolin and Ball Clay Industry. For later years, all clays were classified by type rather than by use and establishments primarily producing rotary drilling muds in that year were probably classified in the Bentonite Industry or the Clay and Related Minerals, N.E.C., Industry.

³Represents number of mines.

⁴Excludes cost of purchased machinery installed.

⁵Represents value of net shipments and receipts.

TABLE 2. General Statistics, by Geographic Areas: 1967 and 1963

(See appendix, "Explanation of Terms")

Geographic area	1967											1963	
	Establishments		All employees		Production, development, and exploration workers			Value added in mining	Cost of supplies, etc., and purchased machinery installed	Value of shipments and receipts	Capital expendi- tures	All employees	Value added in mining
	Total	With 20 employ- ees or more	Number	Payroll	Number	Man-hours	Wages						
	(number)	(number)	(1,000)	(million dollars)	(1,000)	(millions)	(million dollars)	(million dollars)	(million dollars)	(million dollars)	(million dollars)	(1,000)	(million dollars)
	INDUSTRY 1459.--CLAY AND RELATED MINERALS, N.E.C.												
United States, total.	127	38	2.3	15.3	2.0	4.4	12.4	35.9	23.5	53.9	5.6	2.0	24.5
Northeast.....	16	3	0.2	1.4	0.2	0.4	1.1	3.1	2.7	5.4	0.5	(NA)	(NA)
Pennsylvania.....	9	-	0.1	0.4	0.1	0.1	0.3	1.1	0.3	1.3	0.1	(NA)	(NA)
East North Central.....	19	7	0.4	2.8	0.3	0.7	2.5	6.1	5.6	9.1	2.5	0.3	3.4
Illinois.....	7	3	0.2	1.7	0.2	0.4	1.6	2.7	3.4	3.9	2.2	0.1	1.7
West North Central.....	20	2	0.2	1.0	0.1	0.3	0.8	2.0	1.4	3.2	0.2	0.1	1.2
Missouri.....	9	1	(Z)	0.3	(Z)	0.1	0.2	0.5	0.6	0.9	0.1	(NA)	(NA)
South Atlantic.....	17	8	0.5	2.6	0.4	0.9	2.1	6.8	3.5	9.9	0.4	0.5	4.4
North Carolina.....	6	1	0.1	0.3	0.1	0.1	0.3	0.5	0.6	1.1	(Z)	0.1	0.5
East South Central.....	12	6	0.2	1.4	0.2	0.4	1.1	4.0	2.3	5.6	0.6	0.1	1.1
Alabama.....	7	2	0.1	0.4	0.1	0.1	0.4	1.8	0.9	2.3	0.3	(NA)	(NA)
West South Central.....	13	5	0.3	1.9	0.2	0.6	1.4	4.4	2.3	6.4	0.3	0.2	3.1
West.....	30	7	0.6	4.3	0.5	1.1	3.6	9.6	5.7	14.3	1.0	0.6	9.8
California.....	14	5	0.2	1.6	0.2	0.4	1.3	2.8	2.3	4.8	0.3	0.1	1.4

Note: Detail may not add to the total because of independent rounding.

- Represents zero. (NA) Not available. (Z) Less than one-half of the unit of measure specified.

TABLE 3. Quantity and Value of Shipments by All Producers: 1967 and 1963

(Includes quantity and value of the products reported not only by establishments classified in this industry, but also by establishments classified in other industries, and shipping these products as "secondary" products. See appendix under "Individual Products")

Product code	Product and geographic area	Total shipments, including interplant transfers			
		1967		1963	
		Quantity (1,000 short tons)	Value (million dollars)	Quantity (1,000 short tons)	Value (million dollars)
1459- --	CLAY AND RELATED MINERALS, N.E.C., TOTAL.....	(X)	55.2	(X)	43.0
14590 01	Crude common clay and shale mined and used in the same establishment in making cement and clay products ¹	20,439.6	(X)	28,880.0	(X)
14591 01					
14590 01	Crude common clay and shale.....	1,600.7	2.9	2,329.0	3.7
14591 01					
14592 01	Prepared common clay and shale, total.....	6,436.8	33.2	4,661.0	26.6
	Prepared in the clay, ceramic, and related minerals, n.e.c., industry...			4,629.0	23.0
	Prepared in other industries.....			32.0	3.7
14591 03	Other clay, ceramic, and refractory minerals: Crude.....	206.6	1.5	2402.0	212.7
14592 03					
14593 01					
	Magnesite and brucite.....	1,119.9	17.6		
	MIDDLE ATLANTIC				
14590 01	Crude common clay and shale.....	453.9	1.0	231.0	0.5
14591 01					
	EAST NORTH CENTRAL				
14590 01	Crude common clay and shale.....	673.9	1.1	337.0	0.4
14591 01					
14592 01	Prepared common clay and shale.....	1,383.5	7.4	1,193.0	5.6
14592 01	Illinois, prepared common clay and shale.....	642.3	3.4	521.0	2.7
	WEST NORTH CENTRAL				
14590 01	Crude common clay and shale.....	168.4	0.3	115.0	0.2
14591 01					
14592 01	Prepared common clay and shale.....	612.2	3.0	487.0	2.1
	SOUTH ATLANTIC				
14592 01	Prepared common clay and shale.....	811.5	3.1	438.0	2.4
	Other clay, ceramic, and refractory minerals:				
14591 03	Crude.....	40.5	0.5	(NA)	(NA)
14592 03	Prepared.....	451.0	6.3	(NA)	(NA)
	EAST SOUTH CENTRAL				
14590 01	Crude common clay and shale.....	107.4	0.2	229.0	0.4
14592 01	Prepared common clay and shale.....	675.4	3.7	401.0	1.9
	WEST SOUTH CENTRAL				
14592 01	Prepared common clay and shale.....	1,319.8	6.9	855.0	4.7
	PACIFIC				
14590 01	Crude common clay and shale.....	14.8	(Z)	488.0	0.5
14591 01					
14592 01	Prepared common clay and shale.....	907.7	5.2	468.0	5.9
14592 01	California, prepared common clay and shale.....	748.2	4.2	403.0	0.5

Note: Detail may not add to the total because of independent rounding.

(NA) Not available. (X) Not applicable. (Z) Less than \$50 thousand.

¹Represents the production of crude common clay and shale by establishments classified in manufacturing industries. In 1967, establishments with less than 10 employees, which accounted for approximately 20 to 30 percent of the production reported in the manufacturing industries, were excluded.

²Represents apatite, kyanite, magnesite, and olivine.

Table 4. Selected Supplies, Minerals Received for Preparation, and Purchased Machinery Installed: 1967 and 1963

(See appendix, "Explanation of Terms")

Code	Supplies	Unit of measure	1967		1963	
			Quantity	Cost (million dollars)	Quantity	Cost (million dollars)
	INDUSTRY 1459.--CLAY AND RELATED MINERALS, N.E.C.					
	Selected supplies, minerals received for preparation, and purchased machinery installed, total.....		(X)	13.1	(X)	¹ 9.2
145091	Minerals for preparation:					
	Received from other establishments.....	1,000 s. tons.	8,583.5	(²)	(NA)	(Z)
	Mined and prepared at the same establishment.....	...do.....		(X)	5,892.0	(X)
353011	Purchased machinery installed.....		(X)	4.6	(X)	2.6
	Supplies used:					
289211	Explosive materials, except ammonium nitrate.....	1,000 pounds..	302.7	0.1	}	(X)
289212	Ammonium nitrate.....	...do.....	976.2	(Z)		
289214	Blasting accessories.....		(X)	(Z)		
331201	Steel mill shapes and forms.....		(NA)	0.5		
970099	All other supplies.....					¹ 6.5
976000	Selected supplies, minerals received for preparation, and purchased machinery installed, n.s.k. ³		(X)	² 8.1		

Note: Detail may not add to the total because of independent rounding.

n.s.k. Not specified by kind. (NA) Not available. (X) Not applicable. (Z) Less than \$50 thousand.

¹Includes the cost of purchases for resale.²The cost of minerals received from other establishments for preparation is included with all other supplies.³This item represents the total cost of supplies for establishments that did not report detailed supplies. For 1967, this also includes estimates for establishments that were not mailed report forms.

SCOPE AND COVERAGE

This report is one of a series presenting preliminary information on industries and products from the 1967 Census of Mineral Industries. The data will be superseded in a final report which in turn will be included in Volume I, Summary and Industry Statistics, 1967 Census of Mineral Industries. That report will include a comprehensive discussion of the concepts and definitions used in the census.

The census of mineral industries covers each mining establishment of firms in the United States with one or more paid employees. Firms which operate more than one establishment were required to file a separate report for each location. Companies which engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation and the activities were of significant size.

For oil and gas field operation and contract services, reports were required for units somewhat different from the "establishment" reporting unit used for other types of mining. Every concern which operated oil and gas wells, drilled such wells for its own account or for others, performed exploration work for oil or gas, or performed oil and gas field services for others during any part of calendar year 1967 was required to submit a separate report for each State or for each district within Texas, Louisiana, New Mexico, and California (however, information on employment, oil and gas production, and capital expenditures was requested by county). Further, concerns which supplied contract services for others were required to submit a separate report for each State. (In this instance also, information on employment, receipts for services, and capital expenditures was requested by county.)

In the 1967 census, for the first time, approximately 10,000 single-unit establishments with 1 to 4 employees were excused from filing reports. Under special arrangements which safeguarded the confidentiality of both tax and census records, limited data on payrolls, sales, and industry classification from the administrative records of the Social Security Administration and the Internal Revenue Service were made available to the Census Bureau for use in the 1967 censuses of business, manufactures, and mineral industries. Estimates for data other than payrolls and sales for these small establishments were constructed from industry averages. The effect on industry aggregates is slight in most industries. For mining as a whole, they account for less than 1 percent of value added. In industry 1459, these small establishments accounted for less than 1 percent of value added.

In the 1967 Census of Mineral Industries, data for all single-unit establishments without paid employees were excluded because of the difficulty in

developing a mailing list for these establishments. The exclusion of these establishments has had only a slight effect on industry aggregates for most industries. Data for establishments without employees were included in the 1963, 1958, and 1954 censuses if these establishments reported more than \$500 in one of the following data items: (1) value of shipments and receipts, (2) cost of supplies and purchased machinery, or (3) capital expenditures. In the 1963 census, establishments without paid employees for mining as a whole accounted for approximately 3 percent of value added, while they accounted for less than 3 percent of value added for industry.

As in earlier censuses, a number of small establishments may have been misclassified as to industry. However, such possible misclassifications have no significant effect on the statistics other than the number of establishments. As indicated above, report forms were not mailed to very small establishments (less than 5 employees). The industry classifications for these establishments were assigned on the basis of brief descriptions of the general activity of the establishment. Where the description is incomplete or there are relatively fine lines of demarcation between industries or between mining and nonmining activity, the code assigned to an establishment could differ from that which would have been assigned on the basis of more complete product information. Therefore, the total establishment count should be reviewed as an approximation rather than a precise measurement. The counts of establishments with 20 or more employees are far more reliable than the total number of establishments.

More detailed figures for this industry will appear in the final census reports. Final reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each mineral industry and for each State are being issued. Final industry reports and final area reports will be published during the spring and fall of 1970. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C. 20233.

The 1967 Census of Mineral Industries is the 16th census of mineral establishments in the United States. For 1967, it was conducted jointly with the censuses of manufactures, retail trade, wholesale trade, and selected services under authority of Title 13 of the United States Code. Title 13 specified that a census of mineral industries be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7."

Appendix

EXPLANATION OF TERMS

(For a more complete discussion of these terms and the method of compiling the Census of Mineral Industries, see the Introduction to the 1963 Census of Mineral Industries, Volume I.)

All Employees--All full-time and part-time employees on the payrolls of operating mineral establishments for any part of the pay period ended nearest the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of the corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The number of production workers is the average of those for mid-month payroll periods of March, May, August, and November. The "all employee" number is the average number of production workers plus the number of other employees in mid-March.

Payroll--This item includes all forms of compensation such as salaries, wages, commissions, dismissal pay, all bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' Social Security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of these establishments, if a corporation; it excludes payments to the proprietor or partners, if an unincorporated concern. Respondents were told that in reporting they could follow the definition of payroll used for calculating the Federal withholding tax.

Production, Development, and Exploration Worker Man-Hours--The total man-hours figures represent all man-hours that production, development, and exploration workers worked both on active days during which there was production or development work, and inactive days, when only watchmen, inspectors, repairmen, and other maintenance men were on duty. They include all man-hours worked or paid for at the mining operations, except hours paid for vacations, holidays, or sick leave, when the employee was not at the establishment. Included are actual overtime hours, not straight-time equivalent hours. Man-hours of working proprietors or partners are excluded.

Cost of Supplies, etc., and Purchased Machinery--The 1967 census report forms requested information on supplies and purchased machinery installed; fuels and electric energy used; and contract work done by others for each establishment. These items included charges to both the current and capital accounts. The figures reported were to include items used during 1967 whether purchased, withdrawn from inventories, or received from other establishments of the company. For selected supplies and fuels and for electric energy, both quantity and cost data were requested. The cost data refer to direct charges actually paid or payable (after discounts) for items used during the year. Freight charges and other direct charges incurred by the establishment in acquiring the items are included. Where the company's records did not show actual amounts used, they were asked to approximate use by adding purchases (or receipts) during the year to opening inventory and subtracting closing inventory.

Separate figures were obtained for (a) selected supplies, minerals received for preparation, and purchased machinery installed; (b) electric energy purchased; (c) purchased fuels used for heat, power, or the generation of electricity; (d) contract work done by others; and (e) products bought and resold in the same condition. Supplies and equipment used in mine development, plant expansion, and capitalized repairs, which are chargeable to fixed assets accounts, were included, as were supplies furnished without charge to contractors for use at the mining operation and supplies sold to employees for use at the establishment. No data on such costs as advertising, insurance, telephone, and research and consulting services of other establishments; or on overhead costs, such as depreciation charges, rent, interest, and royalties were included in this item.

Specific Supplies Used and Minerals Prepared--In addition to the total cost of supplies, etc., and purchased machinery which every establishment was required to report, information was also collected on the consumption of major supplies used in mining. These supplies inquiries were restricted to those supplies which were important parts of the cost of production, exploration, and development of a particular industry and for which cost information was available from the firms' records. Information regarding the specific supplies consumed is shown in table 4.

On report forms for almost all mineral industries, except the contract services industries, a uniform inquiry was included on minerals prepared at the reported establish-

ments. Figures were obtained on minerals prepared from three sources: (1) Crude minerals mined at the establishment (quantity); (2) crude minerals received from other establishments of the company or purchased from others (quantity and cost); and (3) crude minerals received for preparation on a custom or toll basis (quantity and estimated value).

Establishments consuming less than a specified amount (usually \$5,000) were not requested to report the cost of a supply separately. Also, the cost of supplies for small establishments for which administrative records were used were imputed as "not specified by kind." (See text for importance of administrative records in the industry.)

Capital Expenditures--In the 1967 census, mining companies were asked to report expenditures made during the year for development and exploration of mineral properties, for new construction, and for machinery purchased at their operations that was chargeable to fixed assets accounts of the mineral establishment and were of a type for which depreciation, depletion, or Office of Minerals Exploration accounts were ordinarily maintained. Capital expenditures during 1967 were to be determined as "additions completed during the year plus construction in progress at the end of the year minus construction in progress at the beginning of the year." Reported capital expenditures were to include work done on contract as well as by the mine forces. Expenditures for machinery and equipment were to include those made for replacement purposes, as well as those for additions to capacity. Excluded from such expenditures totals are costs of maintenance and repairs charged as current operating expense. Also excluded are expenditures for land and mineral rights.

Wherever applicable, separate figures were provided for expenditures for (a) development and exploration of mineral property, (b) preparation plant construction and other construction, (c) new machinery and equipment, and (d) used plant and used equipment acquired from others.

Value of Shipments--The amounts under value of shipments are the values, f.o.b., mine, well, or plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts such as receipts for contract work performed for others, installation and repair, sales of scrap, and sale of products bought and resold without further processing. Included are all items produced by

the establishments and sold, transferred to other plants of the same company, or shipped on consignment.

In the case of multiunit companies, the firm was requested to report the value of products transferred to other establishments of the same company at full economic or commercial value, i.e., include not only the direct costs of production but also a reasonable proportion of "all other costs" (including company overhead) and profit.

Individual Products--In the 1967 Census of Mineral Industries, information on output of about 225 individual mineral product items was collected.

In general, the 1967 and 1963 minerals censuses figures were confined to separate totals for each crude and each prepared mineral. Where significant, separate shipments figures were also obtained for crude minerals going to preparation plants and those going to consumers.

Figures were collected on both quantity and value of shipments. Shipments include commercial shipments and transfers of products to other operations of the same company. For products which are used to a significant extent within the same establishment for power or heat, and for minerals mined and prepared in the same establishment, total production or separate data on production for such uses were collected. Typically, production was also collected for products for which there are usually significant differences between total production and total shipments as a result of stock changes.

For service industries, the amount received or due for services performed during 1967 was collected as a measure of output. For mine operators who also perform services, the amount received for such services was added to the total value of products shipped to determine total value of shipments and receipts for each establishment.

Table 3 of the individual industry reports provides the national and regional total shipments from all industries for each of the products primary to the industries covered in the report.

Shipments and Production--Shipments figures include all products physically shipped from the establishment during 1967, including material withdrawn from stockpiles and products shipped on consignment, whether or not sold in 1967. Prepared material or concentrates include prep-

aration from ores mined at the same establishment, purchased, received from other operations of the same company, or received for milling on a custom or toll basis. For products transferred to other establishments of the same company or prepared on a custom basis, the company was requested to include, in addition to direct costs of production, a reasonable proportion of company overhead and profits.

For industry and industry group totals, some duplication is introduced by the inclusion of materials transferred from one establishment to another for mineral preparation. Wherever value of shipments is shown without further specification, it represents gross shipments.

For years prior to 1954, data on shipments were not collected. Instead, the report forms requested data on the quantity and value of

production. In general, the data for these years were edited to represent net production, excluding duplications due to mining and later preparing the same material in the same industry.

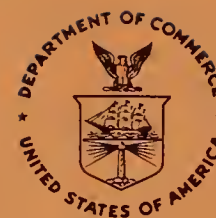
Value Added in Mining--Since the 1954 census, this measure has been computed by subtracting the cost of supplies, etc., and purchased machinery from the sum of value of shipments and receipts and capital expenditures. This statistic avoids the duplication in value of shipments which results from the use of products of some establishments as supplies, energy sources, or materials by others. Moreover, it provides a measure of value added not only in mineral production, but also in the development of mineral properties. For these reasons, it is considered to be the best value measure for comparing the relative economic importance of mining among industries and geographic areas.

THE NATIONAL ECONOMIC GOAL

Sustained maximum growth in a free market economy, without inflation, under conditions of full employment and equal opportunity

THE DEPARTMENT OF COMMERCE

The historic mission of the Department is "to foster, promote and develop the foreign and domestic commerce" of the United States. This has evolved, as a result of legislative and administrative additions, to encompass broadly the responsibility to foster, serve and promote the nation's economic development and technological advancement. The Department seeks to fulfill this mission through these activities:



MISSION AND FUNCTIONS OF THE DEPARTMENT OF COMMERCE

"to foster, serve and promote the nation's economic development and technological advancement"

Participating with other government agencies in the creation of national policy, through the President's Cabinet and its subdivisions.

- Cabinet Committee on Economic Policy
- Urban Affairs Council
- Environmental Quality Council

Promoting progressive business policies and growth.

- Business and Defense Services Administration
- Office of Field Services

Assisting states, communities and individuals toward economic progress.

- Economic Development Administration
- Regional Planning Commissions
- Office of Minority Business Enterprise

Strengthening the international economic position of the United States.

- Bureau of International Commerce
- Office of Foreign Commercial Services
- Office of Foreign Direct Investments
- United States Travel Service
- Maritime Administration

Assuring effective use and growth of the nation's scientific and technical resources.

- Environmental Science Services Administration
- Patent Office
- National Bureau of Standards
- Office of Telecommunications
- Office of State Technical Services

Acquiring, analyzing, and disseminating information concerning the nation and the economy to help achieve increased social and economic benefit.

- Bureau of the Census
- Office of Business Economics

NOTE: This schematic is neither an organization chart nor a program outline for budget purposes. It is a general statement of the Department's mission in relation to the national goal of economic development.



1967 Census of MINERAL INDUSTRIES

INDUSTRY SERIES



U.S. DEPARTMENT OF COMMERCE / Bureau of the Census

preliminary report

MIC67(P)-14D-1

Barite

SIC Code 1472

The Barite Industry represents establishments primarily engaged in mining, milling, grinding, or otherwise preparing crude barite. Establishments engaged in grinding barite which do not include a mine are classified in the manufacturing industry 3295, minerals and earths, ground or otherwise treated.

This report includes figures for administrative offices, warehouses, storage facilities, and other auxiliary units which service mining establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions contained in the 1967 edition

of the Standard Industrial Classification (SIC) Manual.

In 1967, the value of products shipped and miscellaneous receipts of establishments classified in the Barite Industry amounted to \$19.6 million, an increase of 17.4 percent compared with 1963. Value added in mining amounted to \$15.3 million in 1967, an increase of 37.8 percent from 1963. Average employment in the industry showed a decrease of 35.7 percent from 1963 to a total of 0.9 thousand employees in 1967.

For an explanation of the terms used in the tables, see appendix at the end of this report.

TABLE 1. General Statistics: 1967 and Earlier Years

(See appendix, "Explanation of Terms")

Year	Establishments		All employees		Production, development, and exploration workers			Value added in mining (million dollars)	Cost of supplies, etc., and purchased machinery installed (million dollars)	Value of shipments and receipts (million dollars)	Capital expenditures (million dollars)
	Total	With 20 employees or more	Number	Payroll	Number	Man-hours	Wages				
	(number)	(number)	(1,000)	(million dollars)	(1,000)	(millions)	(million dollars)				
	INDUSTRY 1472.--BARITE										
1967.....	30	10	0.9	4.7	0.8	1.6	3.9	15.3	5.6	19.6	1.2
1963.....	54	13	1.4	6.8	0.9	1.9	3.6	11.1	6.7	16.7	1.1
1958.....	53	8	1.2	5.2	0.8	1.6	2.7	11.3	3.4	13.8	1.0
1954.....	44	11	1.1	3.9	1.0	2.4	3.5	14.1	5.2	18.3	1.0
1939.....	¹ 47	(NA)	0.9	0.8	0.8	1.4	0.6	1.7	² 0.4	³ 2.1	(NA)
1929.....	¹ 44	(NA)	0.9	0.8	0.8	(NA)	0.6	1.5	² 0.5	³ 1.8	(NA)
1919 ⁴	89	(NA)	1.0	0.9	0.9	(NA)	0.8	1.3	0.3	1.6	(NA)
1909.....	¹ 42	(NA)	0.3	0.1	0.2	(NA)	0.1	0.2	(Z)	0.2	(NA)
1902.....	¹ 49	(NA)	0.4	0.1	⁵ 0.3	(NA)	0.1	0.2	(Z)	³ 0.2	(NA)
1889.....	(NA)	(NA)	0.2	0.1	0.2	(NA)	(NA)	0.1	(Z)	³ 0.1	(NA)
1880 ⁶	¹ 6	(NA)	0.1	(Z)	(NA)	(NA)	(NA)	(Z)	-	(Z)	(NA)

- Represents zero. (NA) Not available. (Z) Less than \$50 thousand.

¹Represents number of mines.

²Excludes the cost of minerals received for preparation.

³Represents value of net shipments and receipts.

⁴Excludes 1 nonproducing operation.

⁵Figures for average employment were converted to a 300-day basis for establishments which operated for a shorter period.

⁶Only one establishment was reported in the barite industry for 1870 and 1860.

TABLE 2. General Statistics, by Geographic Areas: 1967 and 1963

(See appendix, "Explanation of Terms")

(See appendix, "Explanation of Terms")

Geographic area	1967										1963		
	Establishments		All employees		Production, development, and exploration workers			Value added in mining (million dollars)	Cost of supplies, etc., and purchased machinery installed (million dollars)	Value of shipments and receipts (million dollars)	Capital expenditures (million dollars)	All employees (1,000)	Value added in mining (million dollars)
	Total	With 20 employees or more	Number	Payroll	Number	Man-hours	Wages						
	(number)	(number)	(1,000)	(million dollars)	(1,000)	(millions)	(million dollars)						
INDUSTRY 1472.--BARITE													
United States, total.	30	10	0.9	4.7	0.8	1.6	3.9	15.3	5.6	19.6	1.2	1.4	11.1
West North Central (Missouri).....	10	5	0.5	2.0	0.4	0.8	1.8	5.6	2.4	7.7	0.3	0.4	3.8
South.....	9	5	0.4	2.3	0.4	0.7	1.9	6.6	2.3	8.4	0.6	1.0	6.4
West.....	11	-	(Z)	0.3	(Z)	0.1	0.3	3.0	0.8	3.5	0.3	0.1	0.9

Note: Detail may not add to the total because of independent rounding.

- Represents zero. (Z) Less than 50 employees.

TABLE 3. Production and Quantity and Value of Shipments by All Producers, by Geographic Areas: 1967 and 1963

(Includes quantity and value of the products reported not only by establishments classified in this industry, but also by establishments classified in other industries, and shipping these products as "secondary" products. See appendix under "Individual Products")

Product code	Product and geographic areas	1967			1963		
		Production (1,000 short tons)	Shipments, including interplant transfers		Production (1,000 short tons)	Shipments, including interplant transfers	
			Quantity (1,000 short tons)	Value (million dollars)		Quantity (1,000 short tons)	Value (million dollars)
1472- --	BARITE, TOTAL.....	(X)	(X)	¹ 19.2	(X)	(X)	¹ 16.4
14721 01	United States: Crude barite production and shipments.....	974.0	203.6	2.4	1,088.0	268.0	3.6
	Prepared barite (crushed or ground, including flotation concentrates), total.....	(NA)	(D)	(D)	(NA)	1,147.0	28.4
14722 01	Processed at establishments classified in the barite industry.....	730.0	¹ 745.6	¹ 16.8	571.0	¹ 564.0	¹ 12.8
32950 87	Processed at establishments classified in other mineral industries and in manufacturing industries.....	(NA)	(D)	(D)	(NA)	583.0	15.6
14721 01	North Central (Missouri): Crude barite production and shipments.....	349.8	78.9	1.0	296.0	104.0	1.5
	Prepared barite (crushed or ground, including flotation concentrates):						
14722 01	Processed at establishments classified in the barite industry.	274.6	273.6	6.7	(NA)	204.0	4.6
14721 01	South: Crude barite production and shipments.....	418.4	46.3	0.8	656.0	78.0	1.4
	Prepared barite (crushed or ground, including flotation concentrates), total.....	(NA)	(D)	(D)	(NA)	¹ 851.0	¹ 21.8
14722 01	Processed at establishments classified in the barite industry.	² 455.4	¹ 2472.0	¹ 210.1	¹ 2327.0	¹ 318.0	¹ 7.4
32950 87	Processed at establishments classified in other mineral industries and in manufacturing industries.....	(NA)	(D)	(D)	(NA)	533.0	14.4
14721 01	West: Crude barite production and shipments.....	205.7	78.4	0.6	136.0	86.0	0.6
	Prepared barite (crushed or ground, including flotation concentrates).....	(NA)	(²)	(²)	(NA)	92.0	2.0

Note: Detail may not add to the total because of independent rounding.

(D) Withheld to avoid disclosing figures for individual companies.

(NA) Not available. (X) Not applicable.

¹Represents net shipments obtained by subtracting minerals received for preparation from gross shipments.²Figures for West are included with those for South.

**TABLE 4. Selected Supplies, Minerals Received for Preparation, and Purchased Machinery Installed:
1967 and 1963**

(See appendix, "Explanation of Terms")

Code	Supplies	Unit of measure	1967		1963	
			Quantity	Delivered cost (million dollars)	Quantity	Delivered cost (million dollars)
	INDUSTRY 1472.--BARITE					
	Selected supplies, minerals received for preparation, and purchased machinery installed, total.....		(X)	3.1	(X)	¹ 4.5
147091	Minerals mined and received for preparation:					
	Mined and prepared at same establishment	1,000 short tons..	815.5	(X)	850.0	(X)
	Received for preparation.....		(X)	(²)	(X)	(²)
353011	Purchased machinery installed.....		(X)	1.1	(X)	0.7
	Supplies used:					
289211	Explosive materials, except ammonium nitrate.....		}	² 0.3	}	¹ 23.8
289212	Ammonium nitrate.....					
289214	Blasting accessories.....					
331201	Steel mill shapes and forms.....					
970099	All other supplies.....				(X)	
976000	Selected supplies, minerals received for preparation, and purchased machinery installed, n.s.k. ³		(X)	1.7		

n.s.k. Not specified by kind. (X) Not applicable.

¹Includes purchases for resale.²Minerals received for preparation are included with supplies used.³This item represents the total cost of supplies for establishments that did not report detailed supplies data. For 1967 this includes estimates for companies that were not mailed report forms.

SCOPE AND COVERAGE

This report is one of a series presenting preliminary information on industries and products from the 1967 Census of Mineral Industries. The data will be superseded in a final report which in turn will be included in Volume 1, Summary and Industry Statistics, 1967 Census of Mineral Industries. That report will include a comprehensive discussion of the concepts and definitions used in the census.

The census of mineral industries covers each mining establishment of firms in the United States with one or more paid employees. Firms which operate more than one establishment were required to file a separate report for each location. Companies which engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation and the activities were of significant size.

For oil and gas field operation and contract services, reports were required for units somewhat different from the "establishment" reporting unit used for other types of mining. Every concern which operated oil and gas wells, drilled such wells for its own account or for others, performed exploration work for oil or gas, or performed oil and gas field services for others during any part of calendar year 1967 was required to submit a separate report for each State or for each district within Texas, Louisiana, New Mexico, and California (however, information on employment, oil and gas production, and capital expenditures was requested by county). Further, concerns which supplied contract services for others were required to submit a separate report for each State. (In this instance also, information on employment, receipts for services, and capital expenditures was requested by county.)

In the 1967 census, for the first time, approximately 10,000 single-unit establishments with 1 to 4 employees were excused from filing reports. Under special arrangements which safeguarded the confidentiality of both tax and census records, limited data on payrolls, sales, and industry classification from the administrative records of the Social Security Administration and the Internal Revenue Service were made available to the Census Bureau for use in the 1967 censuses of business, manufactures, and mineral industries. Estimates for data other than payrolls and sales for these small establishments were constructed from industry averages. The effect on industry aggregates is slight in most industries. For mining as a whole, they account for less than 1 percent of value added. In industry 1472, these small establishments accounted for less than 1 percent of value added.

In the 1967 Census of Mineral Industries, data for all single-unit establishments without paid employees were excluded because of the difficulty in

developing a mailing list for these establishments. The exclusion of these establishments has had only a slight effect on industry aggregates for most industries. Data for establishments without employees were included in the 1963, 1958, and 1954 censuses if these establishments reported more than \$500 in one of the following data items: (1) value of shipments and receipts, (2) cost of supplies and purchased machinery, or (3) capital expenditures. In the 1963 census, establishments without paid employees for mining as a whole accounted for approximately 3 percent of value added, while they accounted for less than 3 percent of value added for industry 1472.

As in earlier censuses, a number of small establishments may have been misclassified as to industry. However, such possible misclassifications have no significant effect on the statistics other than the number of establishments. As indicated above, report forms were not mailed to very small establishments (less than 5 employees). The industry classifications for these establishments were assigned on the basis of brief descriptions of the general activity of the establishment. Where the description is incomplete or there are relatively fine lines of demarcation between industries or between mining and nonmining activity, the code assigned to an establishment could differ from that which would have been assigned on the basis of more complete product information. Therefore, the total establishment count should be reviewed as an approximation rather than a precise measurement. The counts of establishments with 20 or more employees are far more reliable than the total number of establishments.

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Appendix

EXPLANATION OF TERMS

(For a more complete discussion of these terms and the method of compiling the Census of Mineral Industries, see the Introduction to the 1963 Census of Mineral Industries, Volume I.)

All Employees--All full-time and part-time employees on the payrolls of operating mineral establishments for any part of the pay period ended nearest the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of the corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The number of production workers is the average of those for mid-month payroll periods of March, May, August, and November. The "all employee" number is the average number of production workers plus the number of other employees in mid-March.

Payroll--This item includes all forms of compensation such as salaries, wages, commissions, dismissal pay, all bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' Social Security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of these establishments, if a corporation; it excludes payments to the proprietor or partners, if an unincorporated concern. Respondents were told that in reporting they could follow the definition of payroll used for calculating the Federal withholding tax.

Production, Development, and Exploration Worker Man-Hours--The total man-hours figures represent all man-hours that production, development, and exploration workers worked both on active days during which there was production or development work, and inactive days, when only watchmen, inspectors, repairmen, and other maintenance men were on duty. They include all man-hours worked or paid for at the mining operations, except hours paid for vacations, holidays, or sick leave, when the employee was not at the establishment. Included are actual overtime hours, not straight-time equivalent hours. Man-hours of working proprietors or partners are excluded.

Cost of Supplies, etc., and Purchased Machinery--The 1967 census report forms requested information on supplies and purchased machinery installed; fuels and electric energy used; and contract work done by others for each establishment. These items included charges to both the current and capital accounts. The figures reported were to include items used during 1967 whether purchased, withdrawn from inventories, or received from other establishments of the company. For selected supplies and fuels and for electric energy, both quantity and cost data were requested. The cost data refer to direct charges actually paid or payable (after discounts) for items used during the year. Freight charges and other direct charges incurred by the establishment in acquiring the items are included. Where the company's records did not show actual amounts used, they were asked to approximate use by adding purchases (or receipts) during the year to opening inventory and subtracting closing inventory.

Separate figures were obtained for (a) selected supplies, minerals received for preparation, and purchased machinery installed; (b) electric energy purchased; (c) purchased fuels used for heat, power, or the generation of electricity; (d) contract work done by others; and (e) products bought and resold in the same condition. Supplies and equipment used in mine development, plant expansion, and capitalized repairs, which are chargeable to fixed assets accounts, were included, as were supplies furnished without charge to contractors for use at the mining operation and supplies sold to employees for use at the establishment. No data on such costs as advertising, insurance, telephone, and research and consulting services of other establishments; or on overhead costs, such as depreciation charges, rent, interest, and royalties were included in this item.

Specific Supplies Used and Minerals Prepared--In addition to the total cost of supplies, etc., and purchased machinery whichever establishment was required to report, information was also collected on the consumption of major supplies used in mining. These supplies inquiries were restricted to those supplies which were important parts of the cost of production, exploration, and development of a particular industry and for which cost information was available from the firms' records. Information regarding the specific supplies consumed is shown in table 4.

On report forms for almost all mineral industries, except the contract services industries, a uniform inquiry was included on minerals prepared at the reported establish-

ments. Figures were obtained on minerals prepared from three sources: (1) Crude minerals mined at the establishment (quantity); (2) crude minerals received from other establishments of the company or purchased from others (quantity and cost); and (3) crude minerals received for preparation on a custom or toll basis (quantity and estimated value).

Establishments consuming less than a specified amount (usually \$5,000) were not requested to report the cost of a supply separately. Also, the cost of supplies for small establishments for which administrative records were used were imputed as "not specified by kind." (See text for importance of administrative records in the industry.)

Capital Expenditures--In the 1967 census, mining companies were asked to report expenditures made during the year for development and exploration of mineral properties, for new construction, and for machinery purchased at their operations that was chargeable to fixed assets accounts of the mineral establishment and were of a type for which depreciation, depletion, or Office of Minerals Exploration accounts were ordinarily maintained. Capital expenditures during 1967 were to be determined as "additions completed during the year plus construction in progress at the end of the year minus construction in progress at the beginning of the year." Reported capital expenditures were to include work done on contract as well as by the mine forces. Expenditures for machinery and equipment were to include those made for replacement purposes, as well as those for additions to capacity. Excluded from such expenditures totals are costs of maintenance and repairs charged as current operating expense. Also excluded are expenditures for land and mineral rights.

Wherever applicable, separate figures were provided for expenditures for (a) development and exploration of mineral property, (b) preparation plant construction and other construction, (c) new machinery and equipment, and (d) used plant and used equipment acquired from others.

Value of Shipments--The amounts under value of shipments are the values, f.o.b., mine, well, or plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts such as receipts for contract work performed for others, installation and repair, sales of scrap, and sale of products bought and resold without further processing. Included are all items produced by

the establishments and sold, transferred to other plants of the same company, or shipped on consignment.

In the case of multiunit companies, the firm was requested to report the value of products transferred to other establishments of the same company at full economic or commercial value, i.e., include not only the direct costs of production but also a reasonable proportion of "all other costs" (including company overhead) and profit.

Individual Products--In the 1967 Census of Mineral Industries, information on output of about 225 individual mineral product items was collected.

In general, the 1967 and 1963 minerals censuses figures were confined to separate totals for each crude and each prepared mineral. Where significant, separate shipments figures were also obtained for crude minerals going to preparation plants and those going to consumers.

Figures were collected on both quantity and value of shipments. Shipments include commercial shipments and transfers of products to other operations of the same company. For products which are used to a significant extent within the same establishment for power or heat, and for minerals mined and prepared in the same establishment, total production or separate data on production for such uses were collected. Typically, production was also collected for products for which there are usually significant differences between total production and total shipments as a result of stock changes.

For service industries, the amount received or due for services performed during 1967 was collected as a measure of output. For mine operators who also perform services, the amount received for such services was added to the total value of products shipped to determine total value of shipments and receipts for each establishment.

Table 3 of the individual industry reports provides the national and regional total shipments from all industries for each of the products primary to the industries covered in the report.

Shipments and Production--Shipments figures include all products physically shipped from the establishment during 1967, including material withdrawn from stockpiles and products shipped on consignment, whether or not sold in 1967. Prepared material or concentrates include prep-

aration from ores mined at the same establishment, purchased, received from other operations of the same company, or received for milling on a custom or toll basis. For products transferred to other establishments of the same company or prepared on a custom basis, the company was requested to include, in addition to direct costs of production, a reasonable proportion of company overhead and profits.

For industry and industry group totals, some duplication is introduced by the inclusion of materials transferred from one establishment to another for mineral preparation. Wherever value of shipments is shown without further specification, it represents gross shipments.

For years prior to 1954, data on shipments were not collected. Instead, the report forms requested data on the quantity and value of

production. In general, the data for these years were edited to represent net production, excluding duplications due to mining and later preparing the same material in the same industry.

Value Added in Mining--Since the 1954 census, this measure has been computed by subtracting the cost of supplies, etc., and purchased machinery from the sum of value of shipments and receipts and capital expenditures. This statistic avoids the duplication in value of shipments which results from the use of products of some establishments as supplies, energy sources, or materials by others. Moreover, it provides a measure of value added not only in mineral production, but also in the development of mineral properties. For these reasons, it is considered to be the best value measure for comparing the relative economic importance of mining among industries and geographic areas.

U.S. DEPARTMENT OF COMMERCE
Bureau of the Census
Washington, D.C. 20233

OFFICIAL BUSINESS



POSTAGE AND FEES PAID
U.S. DEPARTMENT OF COMMERCE



1967 Census of MINERAL INDUSTRIES

INDUSTRY SERIES



U.S. DEPARTMENT OF COMMERCE / Bureau of the Census

preliminary report

MIC67(P)-14D-2

Fluorspar

SIC Code 1473

The Fluorspar Industry represents establishments primarily engaged in mining, milling, or otherwise preparing fluorspar.

This report includes figures for administrative offices, warehouses, storage facilities, and other auxiliary units which service mining establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions contained in the 1967 edition of the Standard Industrial Classification (SIC) Manual.

In 1967, the value of products shipped and miscellaneous receipts of establishments classified in the Fluorspar Industry amounted to \$19.6 million, an increase of 24.1 percent compared with 1963. Value added in mining amounted to \$11.0 million in 1967, an increase of 23.6 percent from 1963. Average employment in the industry showed a decrease of 12.5 percent from 1963 to a total of 0.7 thousand employees in 1967.

For an explanation of the terms used in the tables, see appendix at the end of this report.

TABLE 1. General Statistics: 1967 and Earlier Years

(See appendix, "Explanation of Terms")

(see appendix, "Explanation of Terms")

Year	Establishments		All employees		Production, development, and exploration workers			Value added in mining (million dollars)	Cost of supplies, etc., and purchased machinery installed (million dollars)	Value of shipments and receipts (million dollars)	Capital expenditures (million dollars)
	Total	With 20 employees or more	Number	Payroll	Number	Man-hours	Wages				
	(number)	(number)	(1,000)	(million dollars)	(1,000)	(millions)	(million dollars)				
	INDUSTRY 1473.--FLUORSPAR										
1967.....	32	9	0.7	4.7	0.6	1.3	3.7	11.0	9.7	19.6	1.1
1963.....	30	7	0.8	4.0	0.7	1.3	3.0	8.9	7.2	15.8	0.3
1958.....	55	11	1.2	5.6	1.0	2.1	4.3	12.7	8.9	20.0	1.6
1954.....	104	15	1.3	4.9	1.0	2.0	3.5	9.9	6.3	15.5	0.7
1939 ¹	² 61	(NA)	1.4	1.4	1.3	2.6	1.1	2.7	³ 0.7	⁴ 3.4	(NA)
1929 ¹	28	(NA)	1.2	1.4	1.1	(NA)	1.1	2.0	³ 1.0	⁴ 2.9	(NA)
1919.....	54	(NA)	1.2	1.5	1.1	(NA)	1.2	2.4	0.9	3.3	(NA)
1909.....	² 18	(NA)	0.3	0.2	0.3	(NA)	0.2	0.2	0.1	0.3	(NA)
1902.....	² 22	(NA)	0.3	0.1	⁵ 0.3	(NA)	0.1	0.2	(Z)	⁴ 0.3	(NA)
1889.....	(NA)	(NA)	0.1	(Z)	0.1	(NA)	(NA)	(Z)	(Z)	(Z)	(NA)

(NA) Not available. (Z) Less than \$50 thousand.

¹Excludes one nonproducing fluorspar mine in 1939, and four nonproducing fluorspar establishments in 1929.

²Represents number of mines.

³Excludes the cost of minerals received for preparation.

⁴Represents value of net shipments and receipts.

⁵Figures for average employment were converted to a 300-day basis for establishments which operated for a shorter period.

TABLE 2. General Statistics, by Geographic Areas: 1967 and 1963

(See appendix, "Explanation of Terms")

(See appendix, "Explanation of Terms")

Geographic area	1967										1963		
	Establishments		All employees		Production, development, and exploration workers			Value added in mining	Cost of supplies, etc., and purchased machinery installed	Value of shipments and receipts	Capital expenditures	All employees	Value added in mining
	Total	With 20 employees or more	Number	Payroll	Number	Man-hours	Wages						
	(number)	(number)	(1,000)	(million dollars)	(1,000)	(millions)	(million dollars)	(million dollars)	(million dollars)	(million dollars)	(million dollars)	(1,000)	(million dollars)
	INDUSTRY 1473.--FLUORSPAR												
United States, total..	32	9	0.7	4.7	0.6	1.3	3.7	11.0	9.7	19.6	1.1	0.8	8.9
North Central.....	14	4	0.5	3.2	0.4	0.9	2.5	8.8	5.1	13.4	0.5	0.6	6.1
South.....	9	4	0.2	1.0	0.1	0.3	0.8	1.2	4.2	4.8	0.5	0.2	2.0
Mountain.....	9	1	0.1	0.4	0.1	0.1	0.4	1.1	0.4	1.4	0.1	(2)	0.8

Note: Detail may not add to the total because of independent rounding.

(2) Less than 50 employees.

¹Includes data for establishments in the Northeast region.

TABLE 3. Production and Quantity and Value of Shipments by All Producers, by Geographic Areas: 1967 and 1963

(Includes quantity and value of products reported not only by establishments classified in this industry, but also by establishments classified in other industries, and shipping these products as "secondary" products. See appendix, "Individual Products")

Product code	Product and geographic area	1967			1963		
		Production (1,000 short tons)	Shipments including interplant transfers		Production (1,000 short tons)	Shipments including interplant transfers	
			Quantity (1,000 short tons)	Value (million dollars)		Quantity (1,000 short tons)	Value (million dollars)
1473- --	FLUORSPAR, TOTAL.....	(x)	(x)	16.5	(x)	(x)	13.4
	United States:						
14731 01	Crude fluorspar:						
	Production and shipments.....	829.4	152.9	1.1	595.0	116.0	0.9
	Prepared fluorspar (crushed or ground, including flotation concentrates):						
14732 01	Production and shipments.....	388.9	385.1	15.4	296.0	293.0	12.5
	North Central:						
	Prepared fluorspar (crushed or ground, including flotation concentrates):						
14732 01	Production and shipments.....	228.0	226.8	10.2	139.0	139.0	7.0
	South:						
	Prepared fluorspar (crushed or ground, including flotation concentrates):						
14732 01	Production and shipments.....	160.9	158.3	5.2	123.0	123.0	4.6
	Mountain:						
	Prepared fluorspar (crushed or ground, including flotation concentrates):						
14732 01	Production and shipments.....				34.0	31.0	0.9

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(X)Not applicable.

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TABLE 4. Selected Supplies, Minerals Received for Preparation, and Purchased Machinery Installed: 1967 and 1963

(See appendix, "Explanation of Terms")

Code	Supplies	Unit of measure	1967		1963	
			Quantity	Cost (million dollars)	Quantity	Cost (million dollars)
	INDUSTRY 1473.--FLUORSPAR					
	Selected supplies, minerals received for preparation, and purchased machinery installed, total.....		(X)	7.9	(X)	15.9
147091	Minerals mined and received for preparation:					
	Mined and prepared at same establishment.....	1,000 short tons..	761.0	(X)	450.0	(X)
	Received for preparation.....	do.....	274.7	3.4	266.0	3.3
353011	Purchased machinery installed.....		(X)	0.5	(X)	0.3
	Supplies used:					
289211	Explosive materials, except ammonium nitrate.....	1,000 lbs.....	821.8	0.2	}	(X) 12.3
289212	Ammonium nitrate.....	do.....	524.7	(Z)		
289214	Blasting accessories.....		(X)	0.1		
331201	Steel mill shapes and forms.....		(X)	0.6		
970099	All other supplies.....					
976000	Selected supplies, minerals received for preparation, and purchased machinery installed, n.s.k. ²		(X)	3.2		

Note: Detail may not add to total because of independent rounding.

n.s.k. Not specified by kind. (X) Not applicable. (Z) Less than \$50 thousand.

¹Includes purchases for resale.²This item represents the total cost of supplies for establishments that did not report detail supplies data. For 1967 this item also includes estimates for companies that were not mailed report forms.

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In the 1967 Census of Mineral Industries, data for all single-unit establishments without paid employees were excluded because of the difficulty in

developing a mailing list for these establishments. The exclusion of these establishments has had only a slight effect on industry aggregates for most industries. Data for establishments without employees were included in the 1963, 1958, and 1954 censuses if these establishments reported more than \$500 in one of the following data items: (1) value of shipments and receipts, (2) cost of supplies and purchased machinery, or (3) capital expenditures. In the 1963 census, establishments without paid employees for mining as a whole accounted for approximately 3 percent of value added, while they accounted for less than 1 percent of value added for industry 1473.

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All Employees--All full-time and part-time employees on the payrolls of operating mineral establishments for any part of the pay period ended nearest the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of the corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The number of production workers is the average of those for mid-month payroll periods of March, May, August, and November. The "all employee" number is the average number of production workers plus the number of other employees in mid-March.

Payroll--This item includes all forms of compensation such as salaries, wages, commissions, dismissal pay, all bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' Social Security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of these establishments, if a corporation; it excludes payments to the proprietor or partners, if an unincorporated concern. Respondents were told that in reporting they could follow the definition of payroll used for calculating the Federal withholding tax.

Production, Development, and Exploration Worker Man-Hours--The total man-hours figures represent all man-hours that production, development, and exploration workers worked both on active days during which there was production or development work, and inactive days, when only watchmen, inspectors, repairmen, and other maintenance men were on duty. They include all man-hours worked or paid for at the mining operations, except hours paid for vacations, holidays, or sick leave, when the employee was not at the establishment. Included are actual overtime hours, not straight-time equivalent hours. Man-hours of working proprietors or partners are excluded.

Cost of Supplies, etc., and Purchased Machinery--The 1967 census report forms requested information on supplies and purchased machinery installed; fuels and electric energy used; and contract work done by others for each establishment. These items included charges to both the current and capital accounts. The figures reported were to include items used during 1967 whether purchased, withdrawn from inventories, or received from other establishments of the company. For selected supplies and fuels and for electric energy, both quantity and cost data were requested. The cost data refer to direct charges actually paid or payable (after discounts) for items used during the year. Freight charges and other direct charges incurred by the establishment in acquiring the items are included. Where the company's records did not show actual amounts used, they were asked to approximate use by adding purchases (or receipts) during the year to opening inventory and subtracting closing inventory.

Separate figures were obtained for (a) selected supplies, minerals received for preparation, and purchased machinery installed; (b) electric energy purchased; (c) purchased fuels used for heat, power, or the generation of electricity; (d) contract work done by others; and (e) products bought and resold in the same condition. Supplies and equipment used in mine development, plant expansion, and capitalized repairs, which are chargeable to fixed assets accounts, were included, as were supplies furnished without charge to contractors for use at the mining operation and supplies sold to employees for use at the establishment. No data on such costs as advertising, insurance, telephone, and research and consulting services of other establishments; or on overhead costs, such as depreciation charges, rent, interest, and royalties were included in this item.

Specific Supplies Used and Minerals Prepared--In addition to the total cost of supplies, etc., and purchased machinery which every establishment was required to report, information was also collected on the consumption of major supplies used in mining. These supplies inquiries were restricted to those supplies which were important parts of the cost of production, exploration, and development of a particular industry and for which cost information was available from the firms' records. Information regarding the specific supplies consumed is shown in table 4.

On report forms for almost all mineral industries, except the contract services industries, a uniform inquiry was included on minerals prepared at the reported establish-

ments. Figures were obtained on minerals prepared from three sources: (1) Crude minerals mined at the establishment (quantity); (2) crude minerals received from other establishments of the company or purchased from others (quantity and cost); and (3) crude minerals received for preparation on a custom or toll basis (quantity and estimated value).

Establishments consuming less than a specified amount (usually \$5,000) were not requested to report the cost of a supply separately. Also, the cost of supplies for small establishments for which administrative records were used were imputed as "not specified by kind." (See text for importance of administrative records in the industry.)

Capital Expenditures-- In the 1967 census, mining companies were asked to report expenditures made during the year for development and exploration of mineral properties, for new construction, and for machinery purchased at their operations that was chargeable to fixed assets accounts of the mineral establishment and were of a type for which depreciation, depletion, or Office of Minerals Exploration accounts were ordinarily maintained. Capital expenditures during 1967 were to be determined as "additions completed during the year plus construction in progress at the end of the year minus construction in progress at the beginning of the year." Reported capital expenditures were to include work done on contract as well as by the mine forces. Expenditures for machinery and equipment were to include those made for replacement purposes, as well as those for additions to capacity. Excluded from such expenditures totals are costs of maintenance and repairs charged as current operating expense. Also excluded are expenditures for land and mineral rights.

Wherever applicable, separate figures were provided for expenditures for (a) development and exploration of mineral property, (b) preparation plant construction and other construction, (c) new machinery and equipment, and (d) used plant and used equipment acquired from others.

Value of Shipments-- The amounts under value of shipments are the values, f.o.b., mine, well, or plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts such as receipts for contract work performed for others, installation and repair, sales of scrap, and sale of products bought and resold without further processing. Included are all items produced by

the establishments and sold, transferred to other plants of the same company, or shipped on consignment.

In the case of multiunit companies, the firm was requested to report the value of products transferred to other establishments of the same company at full economic or commercial value, i.e., include not only the direct costs of production but also a reasonable proportion of "all other costs" (including company overhead) and profit.

Individual Products-- In the 1967 Census of Mineral Industries, information on output of about 225 individual mineral product items was collected.

In general, the 1967 and 1963 minerals censuses figures were confined to separate totals for each crude and each prepared mineral. Where significant, separate shipments figures were also obtained for crude minerals going to preparation plants and those going to consumers.

Figures were collected on both quantity and value of shipments. Shipments include commercial shipments and transfers of products to other operations of the same company. For products which are used to a significant extent within the same establishment for power or heat, and for minerals mined and prepared in the same establishment, total production or separate data on production for such uses were collected. Typically, production was also collected for products for which there are usually significant differences between total production and total shipments as a result of stock changes.

For service industries, the amount received or due for services performed during 1967 was collected as a measure of output. For mine operators who also perform services, the amount received for such services was added to the total value of products shipped to determine total value of shipments and receipts for each establishment.

Table 3 of the individual industry reports provides the national and regional total shipments from all industries for each of the products primary to the industries covered in the report.

Shipments and Production-- Shipments figures include all products physically shipped from the establishment during 1967, including material withdrawn from stockpiles and products shipped on consignment, whether or not sold in 1967. Prepared material or concentrates include prep-

aration from ores mined at the same establishment, purchased, received from other operations of the same company, or received for milling on a custom or toll basis. For products transferred to other establishments of the same company or prepared on a custom basis, the company was requested to include, in addition to direct costs of production, a reasonable proportion of company overhead and profits.

For industry and industry group totals, some duplication is introduced by the inclusion of materials transferred from one establishment to another for mineral preparation. Wherever value of shipments is shown without further specification, it represents gross shipments.

For years prior to 1954, data on shipments were not collected. Instead, the report forms requested data on the quantity and value of

production. In general, the data for these years were edited to represent net production, excluding duplications due to mining and later preparing the same material in the same industry.

Value Added in Mining--Since the 1954 census, this measure has been computed by subtracting the cost of supplies, etc., and purchased machinery from the sum of value of shipments and receipts and capital expenditures. This statistic avoids the duplication in value of shipments which results from the use of products of some establishments as supplies, energy sources, or materials by others. Moreover, it provides a measure of value added not only in mineral production, but also in the development of mineral properties. For these reasons, it is considered to be the best value measure for comparing the relative economic importance of mining among industries and geographic areas.

U.S. DEPARTMENT OF COMMERCE
Bureau of the Census
Washington, D.C. 20233

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1967 Census of MINERAL INDUSTRIES

INDUSTRY SERIES

U.S. DEPARTMENT OF COMMERCE/Bureau of the Census



preliminary report

MIC67(P)-14D-3

Potash, soda, and borate minerals

SIC Code 1474

The Potash, Soda, and Borate Minerals Industry represents establishments primarily engaged in mining, milling, or otherwise preparing natural potassium, sodium, or boron compounds (other than common salt). Products of this industry include potash salts, sodium borates (borax, kernite, ulexite), sodium carbonates (soda ash, trona), sodium sulfates (principally Glauber's salt); and colemanite, a calcium borate. Dry-lake brine operations are included in this industry as well as establishments engaged in producing the specified minerals from underground and open-pit mines.

This report includes figures for administrative offices, warehouses, storage facilities, and other auxiliary units which service mining establishments. The classification of establishments for

which data are tabulated in this report is based upon the definitions contained in the 1967 edition of the Standard Industrial Classification (SIC) Manual.

In 1967, the value of products shipped and miscellaneous receipts of establishments classified in the Potash, Soda, and Borate Minerals Industry amounted to \$216.0 million, an increase of 12.4 percent compared with 1963. Value added in mining amounted to \$188.1 million in 1967, an increase 20.4 percent from 1963. Average employment in the industry showed an increase of 11.3 percent from 1963 to a total of 7.9 thousand employees in 1967.

For an explanation of the terms used in the tables, see appendix at the end of this report.

TABLE 1. General Statistics: 1967 and Earlier Years

(See appendix, "Explanation of Terms")

(see appendix, "Explanation of Terms")

Year	Establishments		All employees		Production, development, and exploration workers			Value added in mining (million dollars)	Cost of supplies, etc., and purchased machinery installed (million dollars)	Value of shipments and receipts (million dollars)	Capital expenditures (million dollars)
	Total (number)	With 20 employees or more (number)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Man-hours (millions)	Wages (million dollars)				
	INDUSTRY 1474. --POTASH, SODA, AND BORATE MINERALS										
1967.....	34	27	7.9	68.0	5.1	10.8	41.4	188.1	71.1	216.0	43.2
1963.....	23	16	7.1	51.9	4.8	9.8	32.9	156.2	62.7	192.1	26.8
1958.....	21	14	6.7	41.1	4.6	9.2	26.7	111.1	41.4	141.1	11.4
1954.....	20	13	6.3	33.4	4.7	9.4	23.0	82.2	34.6	107.8	9.1
1939 ¹	² 17	(NA)	2.4	4.8	2.0	4.4	3.4	13.3	³ 3.7	⁴ 17.0	(NA)
1902.....	² 6	(NA)	0.2	0.1	⁵ 0.2	(NA)	0.1	2.2	³ 0.2	⁴ 2.4	(NA)

(NA) Not available.

¹Excludes 2 mines and 1 preparation plant which were nonproducing.

²Represents number of mines.

³Excludes the cost of minerals received for preparation.

⁴Represents value of net shipments and receipts.

⁵Figures for average employment were converted to a 300-day basis for establishments which operated for a shorter period.

TABLE 2. General Statistics, by Geographic Areas: 1967 and 1963

(See appendix, "Explanation of Terms")

(See appendix, "Explanation of Terms")

Geographic area	1967											1963	
	Establishments		All employees		Production, development, and exploration workers			Value added in mining (million dollars)	Cost of supplies, etc., and purchased machinery installed (million dollars)	Value of shipments and receipts (million dollars)	Capital expenditures (million dollars)	All employees (1,000)	Value added in mining (million dollars)
	Total	With 20 employees or more	Number	Payroll	Number	Man-hours	Wages						
	(number)	(number)	(1,000)	(million dollars)	(1,000)	(millions)	(million dollars)						
INDUSTRY 1474.--POTASH, SODA, AND BORATE MINERALS													
United States, total.....	34	27	7.9	68.0	5.1	10.8	41.4	188.1	71.1	216.0	43.2	7.1	156.2
West South Central and Mountain.....	124	119	15.1	142.5	3.6	7.6	29.1	110.3	51.1	132.5	28.9	14.4	98.9
New Mexico.....	7	7	3.6	29.4	2.7	5.5	21.2	67.9	33.5	97.1	4.3	3.5	81.2
Pacific (California).....	10	8	2.8	25.5	1.5	3.1	12.4	77.8	20.0	83.4	14.3	2.7	57.2

Note: Detail may not add to the total because of independent rounding.

¹For 1967, includes figures for central offices and related facilities in New York. For 1963, included figures for central offices and related facilities in New York, Illinois, District of Columbia, and Virginia.

TABLE 3. Production and Quantity and Value of Shipments by All Producers: 1967 and 1963

(Includes production and quantity and value of products reported not only by establishments classified in this industry, but also by establishments classified in other industries, and shipping these products as "secondary" products. See appendix, under "Individual Products")

Product code	Product	1967			1963		
		Production (1,000 short tons)	shipments including interplant transfers		Production (1,000 short tons)	shipments including interplant transfers	
			Quantity (1,000 short tons)	Value (million dollars)		Quantity (1,000 short tons)	Value (million dollars)
1474- --	POTASH, SODA, AND BORATE MINERALS, TOTAL.....	(X)	(X)	1206.3	(X)	(X)	1186.5
	Potassium salts:						
14741 01	Crude salts.....	² 21,340.0	(³)	(³)	² 16,714.0	(³)	(³)
14742 01	Processed or refined salts.....	5,573.4	15,486.4	1102.5	4,515.0	14,608.0	1104.2
14743 01	Natural sodium carbonates.....	(NA)	1,754.7	37.1	(NA)	1,107.0	26.6
14743 03	Natural sodium sulfate.....	(NA)	1,554.4	66.7	(NA)	432.0	8.8
14744 01	Boron compounds.....	(NA)			(NA)	723.0	46.9

(NA) Not available. (X) Not applicable.

¹Represents net shipments obtained from gross shipments of crude and processed or refined salts by subtracting shipments of crude salts to other establishments for processing or refining.²Represents production from underground mines only. Does not include production from well brines or dry-lake brines; only shipments were reported for such operations.³Crude salts are included with processed or refined salts.

TABLE 4. Selected Supplies, Materials Received for Preparation, and Purchased Machinery Installed: 1967 and 1963

(See appendix, "Explanation of Terms")

Code	Material	Unit of measure	1967		1963	
			Quantity	Cost (million dollars)	Quantity	Cost (million dollars)
	INDUSTRY 1474.--POTASH, SODA, AND BORATE MINERALS					
	Selected supplies, mineral received for preparation, and purchased machinery installed, total.....		(X)	51.4	(X)	¹ 40.5
147091	Minerals received for preparation.....		(X)	(²)	(X)	(²)
353011	Purchased machinery installed.....		(X)	16.6	(X)	11.8
	Supplies used:					
289211	Explosive materials, except ammonium nitrate.....	1,000 pounds.....	4,250.5	0.9	}	¹ 28.7
289212	Ammonium nitrate.....	do.....	19,617.0	0.8		
289214	Blasting accessories.....	do.....	(X)	0.8		
331201	Steel mill shapes and forms.....		(NA)	5.2		
970099	All other supplies.....					
976000	Selected supplies, mineral received for preparation, and purchased machinery installed, n.s.k. ³		(X)	² 27.1		

(NA) Not available. (X) Not applicable.

¹Cost of supplies used includes purchases for resale.²Figures for minerals received for preparation are included with all other supplies.³This item represents cost of supplies for establishments that did not report detailed supplies. For 1967, this also includes estimates for establishments that were not mailed report forms.

SCOPE AND COVERAGE

This report is one of a series presenting preliminary information on industries and products from the 1967 Census of Mineral Industries. The data will be superseded in a final report which in turn will be included in Volume I, Summary and Industry Statistics, 1967 Census of Mineral Industries. That report will include a comprehensive discussion of the concepts and definitions used in the census.

The census of mineral industries covers each mining establishment of firms in the United States with one or more paid employees. Firms which operate more than one establishment were required to file a separate report for each location. Companies which engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation and the activities were of significant size.

For oil and gas field operation and contract services, reports were required for units somewhat different from the "establishment" reporting unit used for other types of mining. Every concern which operated oil and gas wells, drilled such wells for its own account or for others, performed exploration work for oil or gas, or performed oil and gas field services for others during any part of calendar year 1967 was required to submit a separate report for each State or for each district within Texas, Louisiana, New Mexico, and California (however, information on employment, oil and gas production, and capital expenditures was requested by county). Further, concerns which supplied contract services for others were required to submit a separate report for each State. (In this instance also, information on employment, receipts for services, and capital expenditures was requested by county.)

In the 1967 census, for the first time, approximately 10,000 single-unit establishments with 1 to 4 employees were excused from filing reports. Under special arrangements which safeguarded the confidentiality of both tax and census records, limited data on payrolls, sales, and industry classification from the administrative records of the Social Security Administration and the Internal Revenue Service were made available to the Census Bureau for use in the 1967 censuses of business, manufactures, and mineral industries. Estimates for data other than payrolls and sales for these small establishments were constructed from industry averages. The effect on industry aggregates is slight in most industries. For mining as a whole, they account for less than 1 percent of value added. In industry 1474, these small establishments accounted for less than 1 percent of value added.

In the 1967 Census of Mineral Industries, data for all single-unit establishments without paid employees were excluded because of the difficulty in

developing a mailing list for these establishments. The exclusion of these establishments has had only a slight effect on industry aggregates for most industries. Data for establishments without employees were included in the 1963, 1958, and 1954 censuses if these establishments reported more than \$500 in one of the following data items: (1) value of shipments and receipts, (2) cost of supplies and purchased machinery, or (3) capital expenditures. In the 1963 census, establishments without paid employees for mining as a whole accounted for approximately 3 percent of value added, while they accounted for less than 1 percent of value added for industry 1474.

As in earlier censuses, a number of small establishments may have been misclassified as to industry. However, such possible misclassifications have no significant effect on the statistics other than the number of establishments. As indicated above, report forms were not mailed to very small establishments (less than 5 employees). The industry classifications for these establishments were assigned on the basis of brief descriptions of the general activity of the establishment. Where the description is incomplete or there are relatively fine lines of demarcation between industries or between mining and nonmining activity, the code assigned to an establishment could differ from that which would have been assigned on the basis of more complete product information. Therefore, the total establishment count should be reviewed as an approximation rather than a precise measurement. The counts of establishments with 20 or more employees are far more reliable than the total number of establishments.

More detailed figures for this industry will appear in the final census reports. Final reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each mineral industry and for each State are being issued. Final industry reports and final area reports will be published during the spring and fall of 1970. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C. 20233.

The 1967 Census of Mineral Industries is the 16th census of mineral establishments in the United States. For 1967, it was conducted jointly with the censuses of manufactures, retail trade, wholesale trade, and selected services under authority of Title 13 of the United States Code. Title 13 specified that a census of mineral industries be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7."

Appendix

EXPLANATION OF TERMS

(For a more complete discussion of these terms and the method of compiling the Census of Mineral Industries, see the Introduction to the 1963 Census of Mineral Industries, Volume I.)

All Employees--All full-time and part-time employees on the payrolls of operating mineral establishments for any part of the pay period ended nearest the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of the corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The number of production workers is the average of those for mid-month payroll periods of March, May, August, and November. The "all employee" number is the average number of production workers plus the number of other employees in mid-March.

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Separate figures were obtained for (a) selected supplies, minerals received for preparation, and purchased machinery installed; (b) electric energy purchased; (c) purchased fuels used for heat, power, or the generation of electricity; (d) contract work done by others; and (e) products bought and resold in the same condition. Supplies and equipment used in mine development, plant expansion, and capitalized repairs, which are chargeable to fixed assets accounts, were included, as were supplies furnished without charge to contractors for use at the mining operation and supplies sold to employees for use at the establishment. No data on such costs as advertising, insurance, telephone, and research and consulting services of other establishments; or on overhead costs, such as depreciation charges, rent, interest, and royalties were included in this item.

Specific Supplies Used and Minerals Prepared--In addition to the total cost of supplies, etc., and purchased machinery which every establishment was required to report, information was also collected on the consumption of major supplies used in mining. These supplies inquiries were restricted to those supplies which were important parts of the cost of production, exploration, and development of a particular industry and for which cost information was available from the firms' records. Information regarding the specific supplies consumed is shown in table 4.

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Capital Expenditures--In the 1967 census, mining companies were asked to report expenditures made during the year for development and exploration of mineral properties, for new construction, and for machinery purchased at their operations that was chargeable to fixed assets accounts of the mineral establishment and were of a type for which depreciation, depletion, or Office of Minerals Exploration accounts were ordinarily maintained. Capital expenditures during 1967 were to be determined as "additions completed during the year plus construction in progress at the end of the year minus construction in progress at the beginning of the year." Reported capital expenditures were to include work done on contract as well as by the mine forces. Expenditures for machinery and equipment were to include those made for replacement purposes, as well as those for additions to capacity. Excluded from such expenditures totals are costs of maintenance and repairs charged as current operating expense. Also excluded are expenditures for land and mineral rights.

Wherever applicable, separate figures were provided for expenditures for (a) development and exploration of mineral property, (b) preparation plant construction and other construction, (c) new machinery and equipment, and (d) used plant and used equipment acquired from others.

Value of Shipments--The amounts under value of shipments are the values, f.o.b., mine, well, or plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts such as receipts for contract work performed for others, installation and repair, sales of scrap, and sale of products bought and resold without further processing. Included are all items produced by

the establishments and sold, transferred to other plants of the same company, or shipped on consignment.

In the case of multiunit companies, the firm was requested to report the value of products transferred to other establishments of the same company at full economic or commercial value, i.e., include not only the direct costs of production but also a reasonable proportion of "all other costs" (including company overhead) and profit.

Individual Products--In the 1967 Census of Mineral Industries, information on output of about 225 individual mineral product items was collected.

In general, the 1967 and 1963 minerals censuses figures were confined to separate totals for each crude and each prepared mineral. Where significant, separate shipments figures were also obtained for crude minerals going to preparation plants and those going to consumers.

Figures were collected on both quantity and value of shipments. Shipments include commercial shipments and transfers of products to other operations of the same company. For products which are used to a significant extent within the same establishment for power or heat, and for minerals mined and prepared in the same establishment, total production or separate data on production for such uses were collected. Typically, production was also collected for products for which there are usually significant differences between total production and total shipments as a result of stock changes.

For service industries, the amount received or due for services performed during 1967 was collected as a measure of output. For mine operators who also perform services, the amount received for such services was added to the total value of products shipped to determine total value of shipments and receipts for each establishment.

Table 3 of the individual industry reports provides the national and regional total shipments from all industries for each of the products primary to the industries covered in the report.

Shipments and Production--Shipments figures include all products physically shipped from the establishment during 1967, including material withdrawn from stockpiles and products shipped on consignment, whether or not sold in 1967. Prepared material or concentrates include prep-

aration from ores mined at the same establishment, purchased, received from other operations of the same company, or received for milling on a custom or toll basis. For products transferred to other establishments of the same company or prepared on a custom basis, the company was requested to include, in addition to direct costs of production, a reasonable proportion of company overhead and profits.

For industry and industry group totals, some duplication is introduced by the inclusion of materials transferred from one establishment to another for mineral preparation. Wherever value of shipments is shown without further specification, it represents gross shipments.

For years prior to 1954, data on shipments were not collected. Instead, the report forms requested data on the quantity and value of

production. In general, the data for these years were edited to represent net production, excluding duplications due to mining and later preparing the same material in the same industry.

Value Added in Mining--Since the 1954 census, this measure has been computed by subtracting the cost of supplies, etc., and purchased machinery from the sum of value of shipments and receipts and capital expenditures. This statistic avoids the duplication in value of shipments which results from the use of products of some establishments as supplies, energy sources, or materials by others. Moreover, it provides a measure of value added not only in mineral production, but also in the development of mineral properties. For these reasons, it is considered to be the best value measure for comparing the relative economic importance of mining among industries and geographic areas.

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1967 Census of MINERAL INDUSTRIES

INDUSTRY SERIES



U.S. DEPARTMENT OF COMMERCE / Bureau of the Census

preliminary report

MIC67(P)-14D-4

Phosphate rock

SIC Code 1475

The Phosphate Rock Industry includes establishments primarily engaged in mining, milling, drying, or otherwise preparing phosphate rock, including apatite. Establishments primarily engaged in the production of phosphoric acid, superphosphates, or other manufactured phosphate compounds or chemicals are classified in Major Group 28, Chemicals and Allied Products.

This report includes figures for administrative offices, warehouses, storage facilities, and other auxiliary units which service mining establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions contained in the 1967 edition

of the Standard Industrial Classification (SIC) Manual.

In 1967, the value of products shipped and miscellaneous receipts of establishments classified in the Phosphate Rock Industry amounted to \$296.6 million, an increase of 72.5 percent compared with 1963. Value added in mining amounted to \$199.1 million in 1967, an increase of 89.4 percent from 1963. Average employment in the industry showed an increase of 44.6 percent from 1963 to a total of 8.1 thousand employees in 1967.

For an explanation of the terms used in the tables, see appendix at the end of this report.

TABLE 1. General Statistics: 1967 and Earlier Years

(See appendix, "Explanation of Terms")

(see appendix, Explanation of Terms)

Year	Establishments		All employees		Production, development, and exploration workers			Value added in mining (million dollars)	Cost of supplies, etc., and purchased machinery installed (million dollars)	Value of shipments and receipts (million dollars)	Capital expenditures (million dollars)
	Total	With 20 employ-ees or more	Number	Payroll	Number	Man-hours	Wages				
	(number)	(number)	(1,000)	(million dollars)	(1,000)	(millions)	(million dollars)				
	INDUSTRY 1475.--PHOSPHATE ROCK										
1967.....	69	41	8.1	59.3	5.4	12.0	35.0	r 199.1	145.0	r 296.6	47.4
1963.....	66	39	5.6	32.0	4.0	9.0	20.6	r 105.1	89.0	r 171.9	22.2
1958.....	65	37	5.4	27.2	4.0	8.3	17.2	64.4	73.4	132.1	5.7
1954.....	75	39	5.4	21.5	4.6	10.1	17.1	62.1	67.2	118.0	11.3
1939 ¹	² 40	(NA)	3.8	3.7	3.4	6.7	2.9	9.0	³ 3.3	⁴ 12.3	(NA)
1935.....	(NA)	(NA)	2.9	2.5	2.6	(NA)	1.8	8.4	³ 3.0	⁴ 11.4	(NA)
1929.....	26	(NA)	3.5	4.1	3.2	(NA)	3.3	9.5	³ 4.4	⁴ 13.0	(NA)
1919 ¹	48	(NA)	4.7	4.7	4.4	(NA)	3.9	6.2	4.1	10.3	(NA)
1909.....	76	(NA)	8.3	3.8	7.9	(NA)	3.2	8.3	2.5	10.8	(NA)
1902.....	² 115	(NA)	6.4	2.3	⁵ 6.0	(NA)	1.9	4.0	³ 1.0	⁴ 4.9	(NA)
1889.....	(NA)	(NA)	5.0	1.2	4.9	(NA)	(NA)	2.5	0.4	⁴ 2.9	(NA)
1880.....	21	(NA)	2.5	0.5	(NA)	(NA)	(NA)	(NA)	(NA)	⁴ 1.1	(NA)

^r Revised. (NA) Not available.

¹Excludes nonproducing operations as follows: For 1939, 1 mine and 1 preparation plant; for 1919, 1 establishment.

²Represents number of mines.

³Excludes the cost of minerals received for preparation.

⁴Represents value of net shipments and receipts.

⁵Figures for average employment were converted to a 300-day basis for establishments which operated for a shorter period.

TABLE 2. General Statistics, by Geographic Areas: 1967 and 1963

(See appendix, "Explanation of Terms")

Geographic area	1967											1963	
	Establishments		All employees		Production, development, and exploration workers			Value added in mining (million dollars)	Cost of supplies, etc., and purchased machinery installed (million dollars)	Value of shipments and receipts (million dollars)	Capital expendi- tures (million dollars)	All employees (1,000)	Value added in mining (million dollars)
	Total	With 20 employ- ees or more	Number	Payroll	Number	Man-hours	Wages						
	(number)	(number)	(1,000)	(million dollars)	(1,000)	(millions)	(million dollars)	(million dollars)	(million dollars)	(million dollars)	(million dollars)	(1,000)	(million dollars)
INDUSTRY 1475, --PHOSPHATE ROCK													
United States, total.	69	41	8.1	59.3	5.4	12.0	35.0	199.1	145.0	296.6	47.4	5.6	^r 105.1
Northeast and South ¹	53	30	6.6	48.6	4.4	9.9	27.4	177.5	128.6	265.7	40.4	4.7	^r 91.7
Florida.....	30	23	4.8	31.1	3.6	8.1	21.9	152.3	113.1	227.1	38.3	3.2	^r 76.4
West.....	16	11	1.4	10.6	1.1	2.1	7.5	21.5	16.4	30.9	7.0	0.9	13.4

Note: Data may not add to total because of independent rounding.

^rRevised.¹Includes one central administrative office in Illinois.

**Table 3. Production and Quantity and Value of Shipments by All Producers,
by Geographic Areas: 1967 and 1963**

(Includes production and quantity and value of products reported not only by establishments classified in this industry, but also by establishments classified in other industries, and shipping these products as "secondary" products. See appendix under "Individual Products")

Product code	Product and geographic area	1967			1963		
		Production (million long tons)	Shipments including interplant transfers		Production (million long tons)	Shipments including interplant transfers	
			Quantity (million long tons)	Value (million dollars)		Quantity (million long tons)	Value (million dollars)
1475- --	PHOSPHATE ROCK.....	(X)	(X)	293.9	(X)	(X)	172.0
	UNITED STATES						
	Production and shipments:						
14751 01	Crude phosphate rock (ore or matrix), total.....	114.8	5.3	13.5	63.4	3.7	10.9
14751 03	Shipped to washer or concentrator.....	(X)	3.0	4.6	(X)	2.5	3.6
14751 05	All other shipments.....	(X)	2.3	8.9	(X)	1.2	7.3
14752 01	Washed or concentrated phosphate rock, total.....	30.6	15.4	72.1	18.0	10.2	^r 44.0
14752 03	Shipped to drier.....	(X)	12.3	48.5	(X)	7.6	27.8
14752 05	All other shipments.....	(X)	3.1	23.6	(X)	2.7	^r 16.2
14752 06	Dried phosphate rock.....	23.6	23.5	169.9	14.3	14.4	^r 89.9
14752 08	Calcined or sintered phosphate rock.....	3.5	3.5	38.5	2.6	2.6	^r 27.2
14752 09	Net shipments of phosphate rock ¹	(X)	32.4	240.8	(X)	20.8	^r 140.6
	NORTHEAST AND SOUTH						
	Production and shipments:						
14751 01	Crude phosphate rock (ore or matrix).....	109.8	2.9	4.1	60.6	2.7	4.2
14752 01	Washed or concentrated phosphate rock.....				17.3		
14752 06	Dried phosphate rock.....	55.4	40.1	259.0	16.2	25.7	^r 148.6
14752 08	Calcined by sintered phosphate rock.....						
14752 09	Net shipments of phosphate rock ¹	(X)	28.3	211.6	(X)	18.7	^r 122.4
	Florida:						
	Production and shipments:						
14751 01	Crude phosphate rock (ore or matrix).....	99.9	13.6	56.8	54.4	(Z)	^r 32.6
14752 01	Washed or concentrated phosphate rock.....	26.1			15.3	8.8	
14752 06	Dried phosphate rock.....	23.7	23.6	168.0	15.0	15.0	^r 93.6
14752 08	Calcined phosphate rock.....						
	Net shipments of phosphate rock ¹	(X)	24.9	176.2	(X)	² 16.4	^{r 2} 101.7
	WEST						
	Production and shipments:						
14751 01	Crude phosphate rock (ore or matrix).....	5.0	2.3	9.4	2.8	1.0	6.7
14752 01	Washed or concentrated phosphate rock.....				0.7		
14752 06	Dried phosphate rock.....	2.4	2.2	21.5	0.7	1.5	12.5
14752 08	Calcined or sintered phosphate rock.....						
14752 09	Net shipments of phosphate rock ¹	(X)	4.1	29.2	(X)	2.1	18.2

Note: Detail may not add to total because of independent rounding. ^rRevised. (X) Not applicable. (Z) Less than 50,000 long tons.

¹Represents "All other shipments" of crude and washed or concentrated phosphate rock plus shipments of dried and calcined or sintered phosphate rock.

²Includes figures for phosphate rock mined, washed, or concentrated in Pennsylvania, Arkansas, Louisiana, and Texas, amounting to less than 5 percent of this total.

Table 4. **Selected Supplies, Minerals Received for Preparation, and Purchased Machinery Installed: 1967 and 1963**

(See appendix, "Explanation of Terms")

Code	Supplies	Unit of measure	1967		1963	
			Quantity	Cost (million dollars)	Quantity	Cost (million dollars)
	INDUSTRY 1475.--PHOSPHATE ROCK					
	Selected supplies, minerals received for preparation, and purchased machinery installed, total.....		(X)	110.8	(X)	66.1
147501	Phosphate rock mined and received for preparation, total.....	Million long tons	122.1	(X)	68.5	(X)
	Received from other establishments.....	do.....	13.3	52.1	8.8	33.6
	Mined and prepared at some establishment.....	do.....	108.7	(X)	59.6	(X)
353011	Purchased machinery installed.....		(X)	33.6	(X)	14.9
	Supplies used:					
389211	Explosive materials, except ammonium nitrate.....		(X)	¹ 1.2	(X)	17.6
389212	Ammonium nitrate.....					
289214	Blasting accessories.....					
331201	Steel mill shapes and forms.....		(X)	1.2		
970099	All other supplies.....					
976000	Selected supplies, minerals received for preparation, and purchased machinery installed, n.s.k. ²		(X)	¹ 23.9		

Note: Detail may not add to total because of independent rounding.

n.s.k. Not specified by kind. (X) Not applicable.

¹The cost of explosive materials and blasting accessories are included with the cost of all other supplies.²This item represents the total cost of supplies for establishments that did not report detailed supplies. For 1967, this also includes estimates for establishments that were not mailed report forms.

SCOPE AND COVERAGE

This report is one of a series presenting preliminary information on industries and products from the 1967 Census of Mineral Industries. The data will be superseded in a final report which in turn will be included in Volume 1, Summary and Industry Statistics, 1967 Census of Mineral Industries. That report will include a comprehensive discussion of the concepts and definitions used in the census.

The census of mineral industries covers each mining establishment of firms in the United States with one or more paid employees. Firms which operate more than one establishment were required to file a separate report for each location. Companies which engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation and the activities were of significant size.

For oil and gas field operation and contract services, reports were required for units somewhat different from the "establishment" reporting unit used for other types of mining. Every concern which operated oil and gas wells, drilled such wells for its own account or for others, performed exploration work for oil or gas, or performed oil and gas field services for others during any part of calendar year 1967 was required to submit a separate report for each State or for each district within Texas, Louisiana, New Mexico, and California (however, information on employment, oil and gas production, and capital expenditures was requested by county). Further, concerns which supplied contract services for others were required to submit a separate report for each State. (In this instance also, information on employment, receipts for services, and capital expenditures was requested by county.)

In the 1967 census, for the first time, approximately 10,000 single-unit establishments with 1 to 4 employees were excused from filing reports. Under special arrangements which safeguarded the confidentiality of both tax and census records, limited data on payrolls, sales, and industry classification from the administrative records of the Social Security Administration and the Internal Revenue Service were made available to the Census Bureau for use in the 1967 censuses of business, manufactures, and mineral industries. Estimates for data other than payrolls and sales for these small establishments were constructed from industry averages. The effect on industry aggregates is slight in most industries. For mining as a whole, they account for less than 1 percent of value added. In industry 1475, these small establishments accounted for less than 1 percent of value added.

In the 1967 Census of Mineral Industries, data for all single-unit establishments without paid employees were excluded because of the difficulty in

developing a mailing list for these establishments. The exclusion of these establishments has had only a slight effect on industry aggregates for most industries. Data for establishments without employees were included in the 1963, 1958, and 1954 censuses if these establishments reported more than \$500 in one of the following data items: (1) value of shipments and receipts, (2) cost of supplies and purchased machinery, or (3) capital expenditures. In the 1963 census, establishments without paid employees for mining as a whole accounted for approximately 3 percent of value added, while they accounted for less than 1 percent of value added for industry 1475.

As in earlier censuses, a number of small establishments may have been misclassified as to industry. However, such possible misclassifications have no significant effect on the statistics other than the number of establishments. As indicated above, report forms were not mailed to very small establishments (less than 5 employees). The industry classifications for these establishments were assigned on the basis of brief descriptions of the general activity of the establishment. Where the description is incomplete or there are relatively fine lines of demarcation between industries or between mining and nonmining activity, the code assigned to an establishment could differ from that which would have been assigned on the basis of more complete product information. Therefore, the total establishment count should be reviewed as an approximation rather than a precise measurement. The counts of establishments with 20 or more employees are far more reliable than the total number of establishments.

More detailed figures for this industry will appear in the final census reports. Final reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each mineral industry and for each State are being issued. Final industry reports and final area reports will be published during the spring and fall of 1970. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C. 20233.

The 1967 Census of Mineral Industries is the 16th census of mineral establishments in the United States. For 1967, it was conducted jointly with the censuses of manufactures, retail trade, wholesale trade, and selected services under authority of Title 13 of the United States Code. Title 13 specified that a census of mineral industries be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7."

Appendix

EXPLANATION OF TERMS

(For a more complete discussion of these terms and the method of compiling the Census of Mineral Industries, see the Introduction to the 1963 Census of Mineral Industries, Volume I.)

All Employees--All full-time and part-time employees on the payrolls of operating mineral establishments for any part of the pay period ended nearest the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of the corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The number of production workers is the average of those for mid-month payroll periods of March, May, August, and November. The "all employee" number is the average number of production workers plus the number of other employees in mid-March.

Payroll--This item includes all forms of compensation such as salaries, wages, commissions, dismissal pay, all bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' Social Security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of these establishments, if a corporation; it excludes payments to the proprietor or partners, if an unincorporated concern. Respondents were told that in reporting they could follow the definition of payroll used for calculating the Federal withholding tax.

Production, Development, and Exploration Worker Man-Hours--The total man-hours figures represent all man-hours that production, development, and exploration workers worked both on active days during which there was production or development work, and inactive days, when only watchmen, inspectors, repairmen, and other maintenance men were on duty. They include all man-hours worked or paid for at the mining operations, except hours paid for vacations, holidays, or sick leave, when the employee was not at the establishment. Included are actual overtime hours, not straight-time equivalent hours. Man-hours of working proprietors or partners are excluded.

Cost of Supplies, etc., and Purchased Machinery--The 1967 census report forms requested information on supplies and purchased machinery installed; fuels and electric energy used; and contract work done by others for each establishment. These items included charges to both the current and capital accounts. The figures reported were to include items used during 1967 whether purchased, withdrawn from inventories, or received from other establishments of the company. For selected supplies and fuels and for electric energy, both quantity and cost data were requested. The cost data refer to direct charges actually paid or payable (after discounts) for items used during the year. Freight charges and other direct charges incurred by the establishment in acquiring the items are included. Where the company's records did not show actual amounts used, they were asked to approximate use by adding purchases (or receipts) during the year to opening inventory and subtracting closing inventory.

Separate figures were obtained for (a) selected supplies, minerals received for preparation, and purchased machinery installed; (b) electric energy purchased; (c) purchased fuels used for heat, power, or the generation of electricity; (d) contract work done by others; and (e) products bought and resold in the same condition. Supplies and equipment used in mine development, plant expansion, and capitalized repairs, which are chargeable to fixed assets accounts, were included, as were supplies furnished without charge to contractors for use at the mining operation and supplies sold to employees for use at the establishment. No data on such costs as advertising, insurance, telephone, and research and consulting services of other establishments; or on overhead costs, such as depreciation charges, rent, interest, and royalties were included in this item.

Specific Supplies Used and Minerals Prepared--In addition to the total cost of supplies, etc., and purchased machinery which every establishment was required to report, information was also collected on the consumption of major supplies used in mining. These supplies inquiries were restricted to those supplies which were important parts of the cost of production, exploration, and development of a particular industry and for which cost information was available from the firms' records. Information regarding the specific supplies consumed is shown in table 4.

On report forms for almost all mineral industries, except the contract services industries, a uniform inquiry was included on minerals prepared at the reported establish-

ments. Figures were obtained on minerals prepared from three sources: (1) Crude minerals mined at the establishment (quantity); (2) crude minerals received from other establishments of the company or purchased from others (quantity and cost); and (3) crude minerals received for preparation on a custom or toll basis (quantity and estimated value).

Establishments consuming less than a specified amount (usually \$5,000) were not requested to report the cost of a supply separately. Also, the cost of supplies for small establishments for which administrative records were used were imputed as "not specified by kind." (See text for importance of administrative records in the industry.)

Capital Expenditures--In the 1967 census, mining companies were asked to report expenditures made during the year for development and exploration of mineral properties, for new construction, and for machinery purchased at their operations that was chargeable to fixed assets accounts of the mineral establishment and were of a type for which depreciation, depletion, or Office of Minerals Exploration accounts were ordinarily maintained. Capital expenditures during 1967 were to be determined as "additions completed during the year plus construction in progress at the end of the year minus construction in progress at the beginning of the year." Reported capital expenditures were to include work done on contract as well as by the mine forces. Expenditures for machinery and equipment were to include those made for replacement purposes, as well as those for additions to capacity. Excluded from such expenditures totals are costs of maintenance and repairs charged as current operating expense. Also excluded are expenditures for land and mineral rights.

Wherever applicable, separate figures were provided for expenditures for (a) development and exploration of mineral property, (b) preparation plant construction and other construction, (c) new machinery and equipment, and (d) used plant and used equipment acquired from others.

Value of Shipments--The amounts under value of shipments are the values, f.o.b., mine, well, or plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts such as receipts for contract work performed for others, installation and repair, sales of scrap, and sale of products bought and resold without further processing. Included are all items produced by

the establishments and sold, transferred to other plants of the same company, or shipped on consignment.

In the case of multiunit companies, the firm was requested to report the value of products transferred to other establishments of the same company at full economic or commercial value, i.e., include not only the direct costs of production but also a reasonable proportion of "all other costs" (including company overhead) and profit.

Individual Products--In the 1967 Census of Mineral Industries, information on output of about 225 individual mineral product items was collected.

In general, the 1967 and 1963 minerals censuses figures were confined to separate totals for each crude and each prepared mineral. Where significant, separate shipments figures were also obtained for crude minerals going to preparation plants and those going to consumers.

Figures were collected on both quantity and value of shipments. Shipments include commercial shipments and transfers of products to other operations of the same company. For products which are used to a significant extent within the same establishment for power or heat, and for minerals mined and prepared in the same establishment, total production or separate data on production for such uses were collected. Typically, production was also collected for products for which there are usually significant differences between total production and total shipments as a result of stock changes.

For service industries, the amount received or due for services performed during 1967 was collected as a measure of output. For mine operators who also perform services, the amount received for such services was added to the total value of products shipped to determine total value of shipments and receipts for each establishment.

Table 3 of the individual industry reports provides the national and regional total shipments from all industries for each of the products primary to the industries covered in the report.

Shipments and Production--Shipments figures include all products physically shipped from the establishment during 1967, including material withdrawn from stockpiles and products shipped on consignment, whether or not sold in 1967. Prepared material or concentrates include prep-

aration from ores mined at the same establishment, purchased, received from other operations of the same company, or received for milling on a custom or toll basis. For products transferred to other establishments of the same company or prepared on a custom basis, the company was requested to include, in addition to direct costs of production, a reasonable proportion of company overhead and profits.

For industry and industry group totals, some duplication is introduced by the inclusion of materials transferred from one establishment to another for mineral preparation. Wherever value of shipments is shown without further specification, it represents gross shipments.

For years prior to 1954, data on shipments were not collected. Instead, the report forms requested data on the quantity and value of

production. In general, the data for these years were edited to represent net production, excluding duplications due to mining and later preparing the same material in the same industry.

Value Added in Mining--Since the 1954 census, this measure has been computed by subtracting the cost of supplies, etc., and purchased machinery from the sum of value of shipments and receipts and capital expenditures. This statistic avoids the duplication in value of shipments which results from the use of products of some establishments as supplies, energy sources, or materials by others. Moreover, it provides a measure of value added not only in mineral production, but also in the development of mineral properties. For these reasons, it is considered to be the best value measure for comparing the relative economic importance of mining among industries and geographic areas.



1967 Census of MINERAL INDUSTRIES

INDUSTRY SERIES

U.S. DEPARTMENT OF COMMERCE / Bureau of the Census

preliminary report

MIC67(P)-14D-5

Rock salt

SIC Code 1476

The Rock Salt Industry represents establishments primarily engaged in mining, crushing, and screening rock salt. Establishments primarily engaged in producing salt from natural or artificial brines are classified in the manufacturing industry 2899, Chemicals and Chemical Preparations, N.E.C. In 1967, 514 million short tons of evaporated salt, valued at \$111.6 million, were shipped, mostly by establishments in this manufacturing industry; as compared with 11.7 million short tons, valued at \$79.8 million, of net shipments of rock salt, mostly by establishments in the Rock Salt Industry. Another source of salt is brine produced and sold as such. Separate census statistics for salt from this source are not available since such brine salts are usually produced and consumed by the same manufacturing plant in the production of chemicals and other manufactured products. According to the Bureau of Mines, salt in brine accounts for 56 percent of the total quantity of all kinds of salt sold or used by producers in 1967.

This report includes figures for administrative offices, warehouses, storage facilities, and other auxiliary units which service mining establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions contained in the 1967 edition of the Standard Industrial Classification (SIC) Manual.

In 1967, the value of products shipped and miscellaneous receipts of establishments classified in the Rock Salt Industry amounted to \$81.3 million, an increase of 37.1 percent compared with 1963. Value added in mining amounted to \$71.0 million in 1967, an increase of 43.4 percent from 1963. Average employment in the industry showed an increase of 8.3 percent from 1963 to a total of 2.6 thousand employees in 1967.

For an explanation of the terms used in the tables, see appendix at the end of this report.

TABLE 1. General Statistics: 1967 and Earlier Years

(See appendix, "Explanation of Terms")

(See appendix, "Explanation of Terms")

Year	Establishments		All employees		Production, development, and exploration workers			Value added in mining (million dollars)	Cost of supplies, etc., and purchased machinery installed (million dollars)	Value of shipments and receipts (million dollars)	Capital expenditures (million dollars)
	Total	With 20 employ- ees or more	Number	Payroll	Number	Man-hours	Wages				
	(number)	(number)	(1,000)	(million dollars)	(1,000)	(millions)	(million dollars)				
	INDUSTRY 1476. --ROCK SALT										
1967.....	26	18	2.6	19.3	1.9	4.4	13.0	71.0	17.5	81.3	7.3
1963.....	25	15	2.4	16.0	1.8	4.3	11.1	49.5	17.2	59.3	7.4
1958.....	22	12	2.0	11.0	1.6	3.5	7.9	34.1	10.3	41.8	2.6
1954.....	15	12	1.9	8.6	1.7	3.9	7.1	30.0	7.8	35.7	2.2
1939.....	¹ 17	(NA)	1.6	2.0	1.4	2.6	1.4	5.7	² 1.2	³ 6.9	(NA)

(NA) Not available.

¹Represents number of mines.

²Excludes the cost of minerals received for preparation.

³Represents value of net shipments and receipts.

TABLE 2. General Statistics, by Geographic Areas: 1967 and 1963

(See appendix, "Explanation of Terms")

Geographic area	1967											1963	
	Establishments		All employees		Production, development, and exploration workers			Value added in mining	Cost of supplies, etc., and purchased machinery installed	Value of shipments and receipts	Capital expenditures	All employees	Value added in mining
	Total	With 20 employees or more	Number	Payroll	Number	Man-hours	Wages						
	(number)	(number)	(1,000)	(million dollars)	(1,000)	(millions)	(million dollars)	(million dollars)	(million dollars)	(million dollars)	(1,000)	(million dollars)	
UNITED STATES, TOTAL.	26	18	2.6	19.3	1.9	4.4	13.0	71.0	17.5	81.3	7.3	2.4	49.5
Northeast and North Central.....	11	9	1.5	12.2	1.0	2.3	7.4	40.8	9.2	44.4	5.7	1.4	28.5
South and West.....	15	9	1.1	7.1	0.9	2.1	5.6	30.2	8.3	36.9	1.5	1.1	21.0

Note: Detail may not add to the total because of independent rounding.

TABLE 3. Quantity and Value of Shipments by All Producers: 1967 and 1963

(Includes quantity and value of products reported not only by establishments classified in this industry, but also by establishments classified in other industries, and shipping these products as "secondary" products. See appendix, "Value of Shipments")

Product Code	Product and Geographic Area	1967		1963	
		Shipment including interplant transfers		Shipment including interplant transfers	
		Quantity (1,000 short tons)	Value (million dollars)	Quantity (1,000 short tons)	Value (million dollars)
1476- --	ROCK SALT, TOTAL.....	¹ 11,747.8	¹ 79.8	¹ 8,769.0	¹ 58.2
14760 00	Northeast and North Central.....	6,802.9	45.1	5,562.0	32.8
14760 00	West South Central.....	4,944.9	34.7	2,925.0	24.3
14760 00	West.....			¹ 282.0	¹ 1.1

¹Represents net shipments obtained by subtracting minerals received for preparation from gross shipments.

Table 4. Selected Supplies, Minerals Received for Preparation, and Purchased Machinery Installed: 1967 and 1963

(See appendix, "Explanation of Terms")

Code	Supplies	Unit of measure	1967		1963	
			Quantity	Cost (million dollars)	Quantity	Cost (million dollars)
	INDUSTRY 1476.--ROCK SALT.....		(X)	14.1	(X)	¹ 15.3
147091	Minerals mined and received for preparation:					
	Mined and prepared.....	1,000 short tons..	11,448.1	(X)	(NA)	(X)
	Received for preparation.....		(D)	(²)	(D)	(²)
353011	Purchased machinery installed.....		(X)	4.9	(X)	5.2
	Supplies used:					
289211	Explosive materials, except ammonium nitrate.....	1,000 pounds.....	^e 6,694.0	0.8	(X)	¹ 210.1
289212	Ammonium nitrate.....	do.....				
289214	Blasting accessories.....			0.2		
331201	Steel mill shapes and forms.....			² 8.2		
970099	All other supplies.....					

(D) Withheld to avoid disclosing figures for individual companies.
(X) Not applicable.^eFrom 10 to 30 percent of this figure was estimated.

(NA) Not available.

¹Includes purchases for resales.²Minerals received for preparation are included with all other supplies used.

SCOPE AND COVERAGE

This report is one of a series presenting preliminary information on industries and products from the 1967 Census of Mineral Industries. The data will be superseded in a final report which in turn will be included in Volume 1, Summary and Industry Statistics, 1967 Census of Mineral Industries. That report will include a comprehensive discussion of the concepts and definitions used in the census.

The census of mineral industries covers each mining establishment of firms in the United States with one or more paid employees. Firms which operate more than one establishment were required to file a separate report for each location. Companies which engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation and the activities were of significant size.

For oil and gas field operation and contract services, reports were required for units somewhat different from the "establishment" reporting unit used for other types of mining. Every concern which operated oil and gas wells, drilled such wells for its own account or for others, performed exploration work for oil or gas, or performed oil and gas field services for others during any part of calendar year 1967 was required to submit a separate report for each State or for each district within Texas, Louisiana, New Mexico, and California (however, information on employment, oil and gas production, and capital expenditures was requested by county). Further, concerns which supplied contract services for others were required to submit a separate report for each State. (In this instance also, information on employment, receipts for services, and capital expenditures was requested by county.)

In the 1967 census, for the first time, approximately 10,000 single-unit establishments with 1 to 4 employees were excused from filing reports. Under special arrangements which safeguarded the confidentiality of both tax and census records, limited data on payrolls, sales, and industry classification from the administrative records of the Social Security Administration and the Internal Revenue Service were made available to the Census Bureau for use in the 1967 censuses of business, manufactures, and mineral industries. Estimates for data other than payrolls and sales for these small establishments were constructed from industry averages. The effect on industry aggregates is slight in most industries. For mining as a whole, they account for less than 1 percent of value added. In industry 1476, these small establishments accounted for less than 1 percent of value added.

In the 1967 Census of Mineral Industries, data for all single-unit establishments without paid employees were excluded because of the difficulty in

developing a mailing list for these establishments. The exclusion of these establishments has had only a slight effect on industry aggregates for most industries. Data for establishments without employees were included in the 1963, 1958, and 1954 censuses if these establishments reported more than \$500 in one of the following data items: (1) value of shipments and receipts, (2) cost of supplies and purchased machinery, or (3) capital expenditures. In the 1963 census, establishments without paid employees for mining as a whole accounted for approximately 3 percent of value added, while they accounted for less than 1 percent of value added for industry 1476.

As in earlier censuses, a number of small establishments may have been misclassified as to industry. However, such possible misclassifications have no significant effect on the statistics other than the number of establishments. As indicated above, report forms were not mailed to very small establishments (less than 5 employees). The industry classifications for these establishments were assigned on the basis of brief descriptions of the general activity of the establishment. Where the description is incomplete or there are relatively fine lines of demarcation between industries or between mining and nonmining activity, the code assigned to an establishment could differ from that which would have been assigned on the basis of more complete product information. Therefore, the total establishment count should be reviewed as an approximation rather than a precise measurement. The counts of establishments with 20 or more employees are far more reliable than the total number of establishments.

More detailed figures for this industry will appear in the final census reports. Final reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each mineral industry and for each State are being issued. Final industry reports and final area reports will be published during the spring and fall of 1970. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C. 20233.

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Appendix

EXPLANATION OF TERMS

(For a more complete discussion of these terms and the method of compiling the Census of Mineral Industries, see the Introduction to the 1963 Census of Mineral Industries, Volume I.)

All Employees--All full-time and part-time employees on the payrolls of operating mineral establishments for any part of the pay period ended nearest the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of the corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The number of production workers is the average of those for mid-month payroll periods of March, May, August, and November. The "all employee" number is the average number of production workers plus the number of other employees in mid-March.

Payroll--This item includes all forms of compensation such as salaries, wages, commissions, dismissal pay, all bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' Social Security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of these establishments, if a corporation; it excludes payments to the proprietor or partners, if an unincorporated concern. Respondents were told that in reporting they could follow the definition of payroll used for calculating the Federal withholding tax.

Production, Development, and Exploration Worker Man-Hours--The total man-hours figures represent all man-hours that production, development, and exploration workers worked both on active days during which there was production or development work, and inactive days, when only watchmen, inspectors, repairmen, and other maintenance men were on duty. They include all man-hours worked or paid for at the mining operations, except hours paid for vacations, holidays, or sick leave, when the employee was not at the establishment. Included are actual overtime hours, not straight-time equivalent hours. Man-hours of working proprietors or partners are excluded.

Cost of Supplies, etc., and Purchased Machinery--The 1967 census report forms requested information on supplies and purchased machinery installed; fuels and electric energy used; and contract work done by others for each establishment. These items included charges to both the current and capital accounts. The figures reported were to include items used during 1967 whether purchased, withdrawn from inventories, or received from other establishments of the company. For selected supplies and fuels and for electric energy, both quantity and cost data were requested. The cost data refer to direct charges actually paid or payable (after discounts) for items used during the year. Freight charges and other direct charges incurred by the establishment in acquiring the items are included. Where the company's records did not show actual amounts used, they were asked to approximate use by adding purchases (or receipts) during the year to opening inventory and subtracting closing inventory.

Separate figures were obtained for (a) selected supplies, minerals received for preparation, and purchased machinery installed; (b) electric energy purchased; (c) purchased fuels used for heat, power, or the generation of electricity; (d) contract work done by others; and (e) products bought and resold in the same condition. Supplies and equipment used in mine development, plant expansion, and capitalized repairs, which are chargeable to fixed assets accounts, were included, as were supplies furnished without charge to contractors for use at the mining operation and supplies sold to employees for use at the establishment. No data on such costs as advertising, insurance, telephone, and research and consulting services of other establishments; or on overhead costs, such as depreciation charges, rent, interest, and royalties were included in this item.

Specific Supplies Used and Minerals Prepared--In addition to the total cost of supplies, etc., and purchased machinery which every establishment was required to report, information was also collected on the consumption of major supplies used in mining. These supplies inquiries were restricted to those supplies which were important parts of the cost of production, exploration, and development of a particular industry and for which cost information was available from the firms' records. Information regarding the specific supplies consumed is shown in table 4.

On report forms for almost all mineral industries, except the contract services industries, a uniform inquiry was included on minerals prepared at the reported establish-

ments. Figures were obtained on minerals prepared from three sources: (1) Crude minerals mined at the establishment (quantity); (2) crude minerals received from other establishments of the company or purchased from others (quantity and cost); and (3) crude minerals received for preparation on a custom or toll basis (quantity and estimated value).

Establishments consuming less than a specified amount (usually \$5,000) were not requested to report the cost of a supply separately. Also, the cost of supplies for small establishments for which administrative records were used were imputed as "not specified by kind." (See text for importance of administrative records in the industry.)

Capital Expenditures--In the 1967 census, mining companies were asked to report expenditures made during the year for development and exploration of mineral properties, for new construction, and for machinery purchased at their operations that was chargeable to fixed assets accounts of the mineral establishment and were of a type for which depreciation, depletion, or Office of Minerals Exploration accounts were ordinarily maintained. Capital expenditures during 1967 were to be determined as "additions completed during the year plus construction in progress at the end of the year minus construction in progress at the beginning of the year." Reported capital expenditures were to include work done on contract as well as by the mine forces. Expenditures for machinery and equipment were to include those made for replacement purposes, as well as those for additions to capacity. Excluded from such expenditures totals are costs of maintenance and repairs charged as current operating expense. Also excluded are expenditures for land and mineral rights.

Wherever applicable, separate figures were provided for expenditures for (a) development and exploration of mineral property, (b) preparation plant construction and other construction, (c) new machinery and equipment, and (d) used plant and used equipment acquired from others.

Value of Shipments--The amounts under value of shipments are the values, f.o.b., mine, well, or plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts such as receipts for contract work performed for others, installation and repair, sales of scrap, and sale of products bought and resold without further processing. Included are all items produced by

the establishments and sold, transferred to other plants of the same company, or shipped on consignment.

In the case of multiunit companies, the firm was requested to report the value of products transferred to other establishments of the same company at full economic or commercial value, i.e., include not only the direct costs of production but also a reasonable proportion of "all other costs" (including company overhead) and profit.

Individual Products--In the 1967 Census of Mineral Industries, information on output of about 225 individual mineral product items was collected.

In general, the 1967 and 1963 minerals censuses figures were confined to separate totals for each crude and each prepared mineral. Where significant, separate shipments figures were also obtained for crude minerals going to preparation plants and those going to consumers.

Figures were collected on both quantity and value of shipments. Shipments include commercial shipments and transfers of products to other operations of the same company. For products which are used to a significant extent within the same establishment for power or heat, and for minerals mined and prepared in the same establishment, total production or separate data on production for such uses were collected. Typically, production was also collected for products for which there are usually significant differences between total production and total shipments as a result of stock changes.

For service industries, the amount received or due for services performed during 1967 was collected as a measure of output. For mine operators who also perform services, the amount received for such services was added to the total value of products shipped to determine total value of shipments and receipts for each establishment.

Table 3 of the individual industry reports provides the national and regional total shipments from all industries for each of the products primary to the industries covered in the report.

Shipments and Production--Shipments figures include all products physically shipped from the establishment during 1967, including material withdrawn from stockpiles and products shipped on consignment, whether or not sold in 1967. Prepared material or concentrates include prep-

aration from ores mined at the same establishment, purchased, received from other operations of the same company, or received for milling on a custom or toll basis. For products transferred to other establishments of the same company or prepared on a custom basis, the company was requested to include, in addition to direct costs of production, a reasonable proportion of company overhead and profits.

For industry and industry group totals, some duplication is introduced by the inclusion of materials transferred from one establishment to another for mineral preparation. Wherever value of shipments is shown without further specification, it represents gross shipments.

For years prior to 1954, data on shipments were not collected. Instead, the report forms requested data on the quantity and value of

production. In general, the data for these years were edited to represent net production, excluding duplications due to mining and later preparing the same material in the same industry.

Value Added in Mining--Since the 1954 census, this measure has been computed by subtracting the cost of supplies, etc., and purchased machinery from the sum of value of shipments and receipts and capital expenditures. This statistic avoids the duplication in value of shipments which results from the use of products of some establishments as supplies, energy sources, or materials by others. Moreover, it provides a measure of value added not only in mineral production, but also in the development of mineral properties. For these reasons, it is considered to be the best value measure for comparing the relative economic importance of mining among industries and geographic areas.

U.S. DEPARTMENT OF COMMERCE
Bureau of the Census
Washington, D.C. 20233

OFFICIAL BUSINESS



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1967 Census of MINERAL INDUSTRIES

INDUSTRY SERIES



U.S. DEPARTMENT OF COMMERCE/Bureau of the Census

preliminary report

MIC67(P)-14D-6

Sulfur

SIC Code 1477

The Sulfur Industry includes establishments primarily engaged in mining native sulfur, including the extraction of native sulfur at well operations, and mining and beneficiating sulfur ore. Establishments primarily engaged in mining, preparing to mine, or concentrating pyrites are classified in industry 1479, Chemical and Fertilizer Mineral Mining, N.E.C. Establishments primarily engaged in recovering elemental sulfur from natural gas are classified in the manufacturing industry 2819, Inorganic Chemicals, N.E.C.

This report includes figures for administrative offices, warehouses, storage facilities, and other auxiliary units which service mining establishments. The classification of establishments for which data are tabulated in this report is based

upon the definitions contained in the 1967 edition of the Standard Industrial Classification (SIC) Manual.

In 1967, the value of products shipped and miscellaneous receipts of establishments classified in the Sulfur Industry amounted to \$271.1 million, an increase of 140 percent compared with 1963. Value added in mining amounted to \$253.1 million in 1967, an increase of 152 percent from 1963. Average employment in the industry showed an increase of 23 percent from 1963 to a total of 3.2 thousand employees in 1967.

For an explanation of the terms used in the tables, see appendix at the end of this report.

TABLE 1. General Statistics: 1967 and Earlier Years

(See appendix, "Explanation of Terms")

Year	Establishments		All employees		Production, development, and exploration workers			Value added in mining (million dollars)	Cost of supplies, etc., and purchased machinery installed (million dollars)	Value of shipments and receipts (million dollars)	Capital expendi- tures (million dollars)
	Total	With 20 employ- ees or more	Number	Payroll	Number	Man-hours	Wages				
	(number)	(number)	(1,000)	(million dollars)	(1,000)	(millions)	(million dollars)				
	INDUSTRY 1477. --SULFUR										
1967.....	30	21	3.2	30.5	1.8	4.0	15.1	253.1	48.3	271.1	30.3
1963.....	17	10	2.6	20.6	1.6	3.3	10.6	100.3	13.8	113.1	1.1
1958.....	24	13	3.7	24.6	2.3	4.6	13.3	94.1	28.4	106.2	16.3
1954.....	20	13	4.1	21.2	3.1	6.2	14.6	124.2	25.4	140.7	8.8
1939 ¹	² 10	(NA)	2.0	4.5	1.5	3.0	2.5	28.9	³ 2.9	⁴ 31.8	(NA)
1929 ^{1 5}	9	(NA)	2.5	4.4	2.2	(NA)	3.5	29.3	³ 9.5	⁴ 37.1	(NA)
1919 ¹	4	(NA)	1.3	2.1	1.1	(NA)	1.7	13.7	4.2	17.9	(NA)
1909.....	4	(NA)	0.4	0.4	0.4	(NA)	0.3	3.5	1.0	4.4	(NA)
1902 ⁵	² 23	(NA)	1.0	0.4	⁶ 1.0	(NA)	0.4	0.7	0.2	⁴ 0.9	(NA)

(NA) Not available.

¹Excludes nonproducing operations as follows: For 1939, 3 mines; for 1929, 2 establishments; and for 1919, 1 establishment.

²Represents number of mines.

³Excludes the cost of minerals received for preparation.

⁴Represents value of net shipments and receipts.

⁵For 1929 and 1902, includes figures for the pyrites subindustry. Only one establishment in the sulfur industry was reported for 1889 and 1880.

⁶Figures for average employment were converted to a 300-day basis for establishments which operated for a shorter period.

TABLE 2. General Statistics, by Geographic Areas: 1967 and 1963

(Geographic data withheld to avoid disclosing figures for individual companies)

Table 3. Production and Quantity and Value of Shipments by All Producers: 1967 and 1963

(Includes production and quantity and value of products reported not only by establishments classified in this industry, but also by establishments classified in other industries, and shipping these products as "secondary" products. See appendix under "Individual Products")

Product code	Product	1967			1963		
		Production (1,000 long tons)	Shipments including interplant transfers		Production (1,000 long tons)	Shipments including interplant transfers	
			Quantity (1,000 long tons)	Value (million dollars)		Quantity (1,000 long tons)	Value (million dollars)
1477- --	SULFUR ¹	7,004.1	7,607.3	271.1	4,883.0	4,923.0	113.1

¹Represents Frasch process sulfur and sulfur ore, the latter amounting for 1963 to only about 1,000 tons valued at \$15 thousand.

Table 4. Selected Supplies, Minerals Received for Preparation, and Purchased Machinery Installed: 1967 and 1963

(See appendix, "Explanation of Terms")

Code	Supplies	Unit of measure	1967		1963	
			Quantity	Cost (million dollars)	Quantity	Cost (million dollars)
	INDUSTRY 1477. --SULFUR					
	Selected supplies, minerals received for preparation, and purchased machinery installed, total.....		(X)	26.3	(X)	5.8
353011	Purchased machinery installed.....		(X)	10.3	(X)	0.8
	Supplies used:					
331201	Steel mill shapes and forms.....		(X)	16.0	(X)	5.0
970099	All other supplies.....					

(X) Not applicable.

SCOPE AND COVERAGE

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developing a mailing list for these establishments. The exclusion of these establishments has had only a slight effect on industry aggregates for most industries. Data for establishments without employees were included in the 1963, 1958, and 1954 censuses if these establishments reported more than \$500 in one of the following data items: (1) value of shipments and receipts, (2) cost of supplies and purchased machinery, or (3) capital expenditures. In the 1963 census, establishments without paid employees for mining as a whole accounted for approximately 3 percent of value added, while they accounted for less than 1 percent of value added for industry 1477.

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Figures were collected on both quantity and value of shipments. Shipments include commercial shipments and transfers of products to other operations of the same company. For products which are used to a significant extent within the same establishment for power or heat, and for minerals mined and prepared in the same establishment, total production or separate data on production for such uses were collected. Typically, production was also collected for products for which there are usually significant differences between total production and total shipments as a result of stock changes.

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OFFICIAL BUSINESS



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1967 Census of MINERAL INDUSTRIES

INDUSTRY SERIES



U.S. DEPARTMENT OF COMMERCE / Bureau of the Census

preliminary report

MIC67(P)-14D-7

Chemical and fertilizer mining, n.e.c.

SIC Code 1479

The Chemical and Fertilizer Mineral Mining, not elsewhere classified, Industry includes establishments primarily engaged in mining, milling, or otherwise preparing chemical or fertilizer mineral raw materials, not elsewhere classified, such as arsenic minerals, guano, lithium minerals, mineral pigments, pyrites, and strontium minerals.

This report includes figures for administrative offices, warehouses, storage facilities, and other auxiliary units which service mining establishments. The classification of establishments for

which data are tabulated in this report is based upon the definitions contained in the 1967 edition of the Standard Industrial Classification (SIC) Manual.

In 1967, the net value of shipments by all producers of Chemical and Fertilizer Mineral Mining, not elsewhere classified, amounted to \$13.2 million, which is unchanged from 1963.

For an explanation of the terms used in the tables, see appendix at the end of this report.

TABLE 1. General Statistics: 1967 and Earlier Years

(See appendix, "Explanation of Terms")

(See appendix, "Explanation of Terms.")

Year	Establishments		All employees		Production, development, and exploration workers			Value added in mining (million dollars)	Cost of supplies, etc., and purchased machinery installed (million dollars)	Value of shipments and receipts (million dollars)	Capital expenditures (million dollars)
	Total	With 20 employ-ees or more	Number	Payroll	Number	Man-hours	Wages				
	(number)	(number)	(1,000)	(million dollars)	(1,000)	(millions)	(million dollars)				
	INDUSTRY 1479. --CHEMICAL AND FERTILIZER MINING, N. E. C.										
1967.....	13	4	0.4	3.4	0.2	0.4	1.1	3.4	2.6	5.3	0.6
1963.....	20	6	1.1	6.0	0.8	1.6	3.8	12.4	7.0	18.3	1.1
1958.....	24	7	2.0	7.8	1.6	2.6	6.1	9.7	6.8	15.8	0.7
1954.....	27	7	1.3	4.9	1.1	2.1	3.8	14.7	2.4	15.0	2.1
1919 ¹	40	(NA)	1.5	1.8	1.4	(NA)	1.6	1.9	1.0	2.9	(NA)
1909 ¹	34	(NA)	1.3	0.5	1.3	(NA)	0.5	0.6	0.3	0.8	(NA)
1889.....	(NA)	(NA)	0.6	0.2	0.6	(NA)	0.2	0.5	0.2	² 0.7	(NA)
1880.....	³ 8	(NA)	0.1	(Z)	(NA)	(NA)	(NA)	⁴ 0.1	(Z)	² 0.1	(NA)

(NA) Not available. (Z) Less than \$50 thousand.

¹Excludes nonproducing operations as follows: 1919, 1 pyrite establishment; for 1909, 1 pyrite, 1 lithium minerals, and 2 mineral pigments establishments.

²Represents the value of net shipments and receipts.

³Represents number of mines.

⁴Excludes figures for 1 pyrite mine.

TABLE 2. General Statistics, by Geographic Areas: 1967 and 1963

(Geographic data withheld to avoid disclosing figures for individual companies)

TABLE 3. Value of Shipments by All Producers: 1967 and 1963

(Includes value of products reported not only by establishments classified in this industry, but also by establishments classified in other industries, and shipping these products as "secondary" products. See appendix under "Individual Products")

Product code	Product	Value of shipments including interplant transfers (million dollars)	
		1967	1963
1479- --	CHEMICAL AND FERTILIZER MINING, N. E. C. ¹	² 13.2	² 13.2

¹Represents pyrites and such other miscellaneous chemical and fertilizer minerals as spodumene, lithium carbonate, wollastonite, and natural wollastonite, and natural iron oxide pigments.²Represents net shipments obtained from gross shipments by subtracting minerals received from other establishments for preparation.

Table 4. Selected Supplies, Minerals Received for Preparation, and Purchased Machinery Installed, by Geographic Areas: 1967 and 1963

(See appendix, "Explanation of Terms")

Code	Supplies	Cost (million dollars)	
		1967	1963
	INDUSTRY 1479. --CHEMICAL AND FERTILIZER MINING, N. E. C.		
	Selected supplies, minerals received for preparation, and purchased machinery installed, total.....	2.4	¹ 6.5
147091	Crude minerals received for preparation.....		0.5
353011	Purchased machinery installed.....		0.2
	Supplies used:		
28921-	Explosives.....	2.4	15.7
331201	Steel mill shapes and forms.....		
970099	All other supplies.....		
976000	Selected supplies, minerals received for preparation, and purchased machinery installed, n. s. k. ²		

¹Includes purchases for resale.²This item represents the total cost of supplies for establishments that did not report detailed supplies. For 1967, this also includes estimates for establishments that were not mailed report forms.

SCOPE AND COVERAGE

This report is one of a series presenting preliminary information on industries and products from the 1967 Census of Mineral Industries. The data will be superseded in a final report which in turn will be included in Volume I, Summary and Industry Statistics, 1967 Census of Mineral Industries. That report will include a comprehensive discussion of the concepts and definitions used in the census.

The census of mineral industries covers each mining establishment of firms in the United States with one or more paid employees. Firms which operate more than one establishment were required to file a separate report for each location. Companies which engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation and the activities were of significant size.

For oil and gas field operation and contract services, reports were required for units somewhat different from the "establishment" reporting unit used for other types of mining. Every concern which operated oil and gas wells, drilled such wells for its own account or for others, performed exploration work for oil or gas, or performed oil and gas field services for others during any part of calendar year 1967 was required to submit a separate report for each State or for each district within Texas, Louisiana, New Mexico, and California (however, information on employment, oil and gas production, and capital expenditures was requested by county). Further, concerns which supplied contract services for others were required to submit a separate report for each State. (In this instance also, information on employment, receipts for services, and capital expenditures was requested by county.)

In the 1967 census, for the first time, approximately 10,000 single-unit establishments with 1 to 4 employees were excused from filing reports. Under special arrangements which safeguarded the confidentiality of both tax and census records, limited data on payrolls, sales, and industry classification from the administrative records of the Social Security Administration and the Internal Revenue Service were made available to the Census Bureau for use in the 1967 censuses of business, manufactures, and mineral industries. Estimates for data other than payrolls and sales for these small establishments were constructed from industry averages. The effect on industry aggregates is slight in most industries. For mining as a whole, they account for less than 1 percent of value added. In industry 1479, these small establishments accounted for less than 1 percent of value added.

In the 1967 Census of Mineral Industries, data for all single-unit establishments without paid employees were excluded because of the difficulty in

developing a mailing list for these establishments. The exclusion of these establishments has had only a slight effect on industry aggregates for most industries. Data for establishments without employees were included in the 1963, 1958, and 1954 censuses if these establishments reported more than \$500 in one of the following data items: (1) value of shipments and receipts, (2) cost of supplies and purchased machinery, or (3) capital expenditures. In the 1963 census, establishments without paid employees for mining as a whole accounted for approximately 3 percent of value added, while they accounted for less than 1 percent of value added for industry 1479.

As in earlier censuses, a number of small establishments may have been misclassified as to industry. However, such possible misclassifications have no significant effect on the statistics other than the number of establishments. As indicated above, report forms were not mailed to very small establishments (less than 5 employees). The industry classifications for these establishments were assigned on the basis of brief descriptions of the general activity of the establishment. Where the description is incomplete or there are relatively fine lines of demarcation between industries or between mining and nonmining activity, the code assigned to an establishment could differ from that which would have been assigned on the basis of more complete product information. Therefore, the total establishment count should be reviewed as an approximation rather than a precise measurement. The counts of establishments with 20 or more employees are far more reliable than the total number of establishments.

More detailed figures for this industry will appear in the final census reports. Final reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each mineral industry and for each State are being issued. Final industry reports and final area reports will be published during the spring and fall of 1970. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C. 20233.

The 1967 Census of Mineral Industries is the 16th census of mineral establishments in the United States. For 1967, it was conducted jointly with the censuses of manufactures, retail trade, wholesale trade, and selected services under authority of Title 13 of the United States Code. Title 13 specified that a census of mineral industries be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7."

Appendix

EXPLANATION OF TERMS

(For a more complete discussion of these terms and the method of compiling the Census of Mineral Industries, see the Introduction to the 1963 Census of Mineral Industries, Volume I.)

All Employees--All full-time and part-time employees on the payrolls of operating mineral establishments for any part of the pay period ended nearest the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of the corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The number of production workers is the average of those for mid-month payroll periods of March, May, August, and November. The "all employee" number is the average number of production workers plus the number of other employees in mid-March.

Payroll--This item includes all forms of compensation such as salaries, wages, commissions, dismissal pay, all bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' Social Security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of these establishments, if a corporation; it excludes payments to the proprietor or partners, if an unincorporated concern. Respondents were told that in reporting they could follow the definition of payroll used for calculating the Federal withholding tax.

Production, Development, and Exploration Worker Man-Hours--The total man-hours figures represent all man-hours that production, development, and exploration workers worked both on active days during which there was production or development work, and inactive days, when only watchmen, inspectors, repairmen, and other maintenance men were on duty. They include all man-hours worked or paid for at the mining operations, except hours paid for vacations, holidays, or sick leave, when the employee was not at the establishment. Included are actual overtime hours, not straight-time equivalent hours. Man-hours of working proprietors or partners are excluded.

Cost of Supplies, etc., and Purchased Machinery--The 1967 census report forms requested information on supplies and purchased machinery installed; fuels and electric energy used; and contract work done by others for each establishment. These items included charges to both the current and capital accounts. The figures reported were to include items used during 1967 whether purchased, withdrawn from inventories, or received from other establishments of the company. For selected supplies and fuels and for electric energy, both quantity and cost data were requested. The cost data refer to direct charges actually paid or payable (after discounts) for items used during the year. Freight charges and other direct charges incurred by the establishment in acquiring the items are included. Where the company's records did not show actual amounts used, they were asked to approximate use by adding purchases (or receipts) during the year to opening inventory and subtracting closing inventory.

Separate figures were obtained for (a) selected supplies, minerals received for preparation, and purchased machinery installed; (b) electric energy purchased; (c) purchased fuels used for heat, power, or the generation of electricity; (d) contract work done by others; and (e) products bought and resold in the same condition. Supplies and equipment used in mine development, plant expansion, and capitalized repairs, which are chargeable to fixed assets accounts, were included, as were supplies furnished without charge to contractors for use at the mining operation and supplies sold to employees for use at the establishment. No data on such costs as advertising, insurance, telephone, and research and consulting services of other establishments; or on overhead costs, such as depreciation charges, rent, interest, and royalties were included in this item.

Specific Supplies Used and Minerals Prepared--In addition to the total cost of supplies, etc., and purchased machinery which every establishment was required to report, information was also collected on the consumption of major supplies used in mining. These supplies inquiries were restricted to those supplies which were important parts of the cost of production, exploration, and development of a particular industry and for which cost information was available from the firms' records. Information regarding the specific supplies consumed is shown in table 4.

On report forms for almost all mineral industries, except the contract services industries, a uniform inquiry was included on minerals prepared at the reported establish-

ments. Figures were obtained on minerals prepared from three sources: (1) Crude minerals mined at the establishment (quantity); (2) crude minerals received from other establishments of the company or purchased from others (quantity and cost); and (3) crude minerals received for preparation on a custom or toll basis (quantity and estimated value).

Establishments consuming less than a specified amount (usually \$5,000) were not requested to report the cost of a supply separately. Also, the cost of supplies for small establishments for which administrative records were used were imputed as "not specified by kind." (See text for importance of administrative records in the industry.)

Capital Expenditures--In the 1967 census, mining companies were asked to report expenditures made during the year for development and exploration of mineral properties, for new construction, and for machinery purchased at their operations that was chargeable to fixed assets accounts of the mineral establishment and were of a type for which depreciation, depletion, or Office of Minerals Exploration accounts were ordinarily maintained. Capital expenditures during 1967 were to be determined as "additions completed during the year plus construction in progress at the end of the year minus construction in progress at the beginning of the year." Reported capital expenditures were to include work done on contract as well as by the mine forces. Expenditures for machinery and equipment were to include those made for replacement purposes, as well as those for additions to capacity. Excluded from such expenditures totals are costs of maintenance and repairs charged as current operating expense. Also excluded are expenditures for land and mineral rights.

Wherever applicable, separate figures were provided for expenditures for (a) development and exploration of mineral property, (b) preparation plant construction and other construction, (c) new machinery and equipment, and (d) used plant and used equipment acquired from others.

Value of Shipments--The amounts under value of shipments are the values, f.o.b., mine, well, or plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts such as receipts for contract work performed for others, installation and repair, sales of scrap, and sale of products bought and resold without further processing. Included are all items produced by

the establishments and sold, transferred to other plants of the same company, or shipped on consignment.

In the case of multiunit companies, the firm was requested to report the value of products transferred to other establishments of the same company at full economic or commercial value, i.e., include not only the direct costs of production but also a reasonable proportion of "all other costs" (including company overhead) and profit.

Individual Products--In the 1967 Census of Mineral Industries, information on output of about 225 individual mineral product items was collected.

In general, the 1967 and 1963 minerals censuses figures were confined to separate totals for each crude and each prepared mineral. Where significant, separate shipments figures were also obtained for crude minerals going to preparation plants and those going to consumers.

Figures were collected on both quantity and value of shipments. Shipments include commercial shipments and transfers of products to other operations of the same company. For products which are used to a significant extent within the same establishment for power or heat, and for minerals mined and prepared in the same establishment, total production or separate data on production for such uses were collected. Typically, production was also collected for products for which there are usually significant differences between total production and total shipments as a result of stock changes.

For service industries, the amount received or due for services performed during 1967 was collected as a measure of output. For mine operators who also perform services, the amount received for such services was added to the total value of products shipped to determine total value of shipments and receipts for each establishment.

Table 3 of the individual industry reports provides the national and regional total shipments from all industries for each of the products primary to the industries covered in the report.

Shipments and Production--Shipments figures include all products physically shipped from the establishment during 1967, including material withdrawn from stockpiles and products shipped on consignment, whether or not sold in 1967. Prepared material or concentrates include prep-

aration from ores mined at the same establishment, purchased, received from other operations of the same company, or received for milling on a custom or toll basis. For products transferred to other establishments of the same company or prepared on a custom basis, the company was requested to include, in addition to direct costs of production, a reasonable proportion of company overhead and profits.

For industry and industry group totals, some duplication is introduced by the inclusion of materials transferred from one establishment to another for mineral preparation. Wherever value of shipments is shown without further specification, it represents gross shipments.

For years prior to 1954, data on shipments were not collected. Instead, the report forms requested data on the quantity and value of

production. In general, the data for these years were edited to represent net production, excluding duplications due to mining and later preparing the same material in the same industry.

Value Added in Mining--Since the 1954 census, this measure has been computed by subtracting the cost of supplies, etc., and purchased machinery from the sum of value of shipments and receipts and capital expenditures. This statistic avoids the duplication in value of shipments which results from the use of products of some establishments as supplies, energy sources, or materials by others. Moreover, it provides a measure of value added not only in mineral production, but also in the development of mineral properties. For these reasons, it is considered to be the best value measure for comparing the relative economic importance of mining among industries and geographic areas.

U.S. DEPARTMENT OF COMMERCE
Bureau of the Census
Washington, D.C. 20233

OFFICIAL BUSINESS



POSTAGE AND FEES PAID
U.S. DEPARTMENT OF COMMERCE



1967 Census of MINERAL INDUSTRIES

INDUSTRY SERIES



U.S. DEPARTMENT OF COMMERCE/Bureau of the Census

preliminary report

MIC67(P)-14E-1

Nonmetallic Minerals (Except Fuel) Services SIC Code 1481

The Nonmetallic Minerals (Except Fuel) Services Industry includes establishments primarily engaged in the removal of overburden, strip mining, and other services for nonmetallic minerals (except fuel) for others on a contract, fee, or other basis. Establishments primarily engaged in performing hauling services are excluded from this industry and all other industries in the Mining Division.

This report includes figures for administrative offices, warehouses, storage facilities, and other auxiliary units which service mining establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions contained in the 1967 edition

of the Standard Industrial Classification (SIC) Manual.

In 1967, the value of services performed and miscellaneous receipts of establishments classified in the Nonmetallic Minerals (Except Fuel) Services Industry amounted to \$15.4 million, an increase of 16.7 percent compared with 1963. Value added in mining amounted to \$11.4 million in 1967, an increase of 22.6 percent from 1963. Average employment in the industry showed a decrease of 11.1 percent from 1963 to a total of 0.8 thousand employees in 1967.

For an explanation of the terms used in the tables, see appendix at the end of this report.

TABLE 1. General Statistics: 1967 and Earlier Years

(See appendix, "Explanation of Terms")

Year	Establishments		All employees		Production, development, and exploration workers			Value added in mining	Cost of supplies, etc., and purchased machinery installed	Value of shipments and receipts	Capital expendi- tures
	Total	With 20 employ- ees or more	Number	Payroll	Number	Man-hours	Wages				
	(number)	(number)	(1,000)	(million dollars)	(1,000)	(millions)	(million dollars)	(million dollars)	(million dollars)	(million dollars)	(million dollars)
INDUSTRY 1481.--NONMETALLIC MINERALS SERVICES											
1967.....	108	10	0.8	5.9	0.7	1.5	5.0	11.4	5.9	15.4	1.9
1963.....	119	11	0.9	4.6	0.8	1.6	4.2	9.3	5.4	13.2	1.4
1958.....	75	6	1.1	3.5	1.0	1.9	3.0	6.2	2.6	7.9	0.8
1954.....	62	4	0.6	2.3	0.6	1.3	2.2	4.9	2.1	6.6	0.4
1939.....	65	(NA)	0.3	0.4	0.3	0.6	0.3	0.7	0.2	1.0	0.1
1902 ²	(NA)	(NA)	0.6	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	0.2	(NA)

(NA) Not available.

¹Excludes the cost of purchased machinery installed, subcontract work, and products purchased for resale. For 1954, the cost of subcontract work was \$0.2 million and the cost of products purchased for resale \$0.1 million.

²Represents number of employees engaged in contract work and payments for contract work as reported by companies operating nonmetallic minerals mines and quarries.

TABLE 2. General Statistics, by Geographic Areas: 1967 and 1963

(See appendix, "Explanation of Terms")

(see appendix, "Explanation of Terms")

Geographic area	1967											1963	
	Establishments		All employees		Production, development, and exploration workers			Value added in mining	Cost of supplies, etc., and purchased machinery installed	Value of shipments and receipts	Capital expenditures	All employees	Value added in mining
	Total	With 20 employees or more	Number	Payroll	Number	Man-hours	Wages						
	(number)	(number)	(1,000)	(million dollars)	(1,000)	(millions)	(million dollars)						
							(million dollars)	(million dollars)	(million dollars)	(million dollars)	(1,000)	(million dollars)	
	INDUSTRY 1481.--NONMETALLIC MINERALS SERVICES												
United States, total.	108	10	0.8	5.9	0.7	1.5	5.0	11.4	5.9	15.4	1.9	0.9	19.3
Northeast.....	11	1	0.1	0.9	0.1	0.1	0.6	1.8	0.6	2.3	0.1	(Z)	0.3
East North Central.....	20	1	0.1	0.8	0.1	0.2	0.7	1.4	0.7	1.8	0.3	0.1	0.7
Ohio.....	7	-	(Z)	0.4	(Z)	0.1	0.3	0.8	0.4	1.0	0.2	0.1	0.5
Indiana.....	3	1	(Z)	0.3	(Z)	0.1	0.3	0.2	0.1	0.3	(Z)	(NA)	(NA)
West North Central.....	19	-	0.1	0.3	0.1	0.1	0.3	0.7	0.4	1.0	0.2	0.1	1.3
Missouri.....	15	-	(Z)	0.3	(Z)	0.1	0.2	0.7	0.4	0.9	0.2	0.1	0.8
South Atlantic.....	13	1	0.1	0.5	0.1	0.2	0.4	0.9	0.3	1.2	0.1	0.1	1.0
East South Central.....	15	2	0.1	0.7	0.1	0.2	0.6	1.7	0.7	2.2	0.1	0.1	1.0
West South Central.....												(NA)	(NA)
Mountain.....	17	4	0.2	1.8	0.2	0.5	1.6	3.3	2.0	4.5	0.8	0.2	3.5
Utah.....	5	1	0.1	0.5	0.1	0.1	0.5	0.8	0.3	1.2	(Z)	(NA)	(NA)
Pacific.....	13	1	0.1	0.8	0.1	0.2	0.8	1.5	1.2	2.4	0.3	0.1	1.3
Oregon.....	4	-	(Z)	0.2	(Z)	0.1	0.2	0.3	0.4	0.5	0.2	(NA)	(NA)

Note: Detail may not add to the total because of independent rounding.

-Represents zero. (NA) Not available. (Z) Less than one-half of the unit of measure specified.

¹In 1963, service establishments were permitted to prepare one report for all mining services performed in the United States. However, these reports contained data for total receipts for services, total employment on March 15, and capital expenditures by State and county. Value added by geographic area was obtained by allocating the totals reported by each company on the basis of the reported county data.

TABLE 3. Quantity and Value of Receipts for Primary Services Performed in All Industries: 1967 and 1963

(Includes quantity and value of services performed not only by establishments classified in this industry, but also by establishments classified in other minerals service industries and performing these services as "secondary services")

Product code	Service and geographic area	1967 ¹		1963 ¹	
		Crude ores produced (1,000 short tons)	Receipts for services (million dollars)	Crude ores produced	Receipts for services (million dollars)
1481--	NONMETALLIC MINERALS SERVICES, TOTAL.....	(X)	14.7	(X)	13.1
14818 01	Exploration work, including geophysical and other exploratory surveying...	(X)	(²)	(X)	(³)
	Drilling:				
14818 03	Prospect and test drilling.....	(X)	1.7	(X)	1.1
14818 05	Other drilling, including blasting.....	(X)	3.1	(X)	1.6
14818 07	Sinking mine shafts and driving mine tunnels.....	(X)	0.8	(X)	(³)
14818 02	Stripping overburden.....	(X)	3.1	(X)	1.5
14818 04	Open pit or quarry mining minerals not for own account.....	3,482.6	3.3	(NA)	6.1
14818 09	Other nonmetallic minerals (except fuel) services.....	(X)	² 2.8	(X)	² 2.9
	Northeast and North Central Regions.....	(X)	5.1	(X)	2.8
14818 03	Drilling.....	(X)	2.8	(X)	(NA)
14818 05	Open pit or quarry mining minerals not for own account.....	(NA)	0.4	(NA)	(NA)
	South Region.....	(X)	2.5	(X)	3.1
14818 03	Drilling.....	(X)	1.0	(X)	(NA)
14818 05	Open pit or quarry mining minerals not for own account.....	(D)	0.6	(NA)	(NA)
	West Region.....	(X)	7.1	(X)	7.2
14818 03	Drilling.....	(X)	0.9	(X)	1.6
14818 05	Sinking mine shafts and driving mine tunnels.....	(X)	0.8	(NA)	(NA)
14818 07	Open pit or quarry mining minerals not for own account.....	2,337.2	2.2	(NA)	(NA)

Note: Detail may not add to the total because of independent rounding. (X) Not applicable. (NA) Not available. (D) Withheld to avoid disclosing figures for individual companies.

¹Excludes receipts for contract services performed by mine operators classified in nonmetallic minerals (except fuels) mining industries. In 1963, the value of receipts for contract services performed by these establishments was \$12.3 million.

²Exploration work, including geophysical and other exploratory surveying, is included with other nonmetallic minerals (except fuel) services.

³Exploration work, including geophysical and other exploratory surveying, and sinking mine shafts and driving, mine tunnels, are included with other nonmetallic minerals (except fuel) services.

TABLE 4. Selected Supplies and Purchased Machinery Installed: 1967 and 1963

(See appendix, "Explanation of Terms")

Code	Supplies	Cost (million dollars)	
		1967	1963
	INDUSTRY 1481.--NONMETALLIC MINERALS SERVICES		
	Selected supplies and purchased machinery installed, total.....	4.7	3.7
353011	Purchased machinery installed.....	1.8	1.1
	Supplies used:		
28921-	Explosive materials and blasting accessories.....	2.9	2.7
331201	Steel mill, shapes and forms.....		
970099	All other supplies.....		
976000	Selected supplies and purchased machinery installed, n.s.k. ¹		

Note: Detail may not add to the total because of independent rounding. n.s.k. Not specified by kind.

¹This item represents the total cost of supplies for establishments that did not report detailed supplies data. For 1967, this also includes estimates for establishments that were not mailed report forms.

SCOPE AND COVERAGE

This report is one of a series presenting preliminary information on industries and products from the 1967 Census of Mineral Industries. The data will be superseded in a final report which in turn will be included in Volume 1, Summary and Industry Statistics, 1967 Census of Mineral Industries. That report will include a comprehensive discussion of the concepts and definitions used in the census.

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For oil and gas field operation and contract services, reports were required for units somewhat different from the "establishment" reporting unit used for other types of mining. Every concern which operated oil and gas wells, drilled such wells for its own account or for others, performed exploration work for oil or gas, or performed oil and gas field services for others during any part of calendar year 1967 was required to submit a separate report for each State or for each district within Texas, Louisiana, New Mexico, and California (however, information on employment, oil and gas production, and capital expenditures was requested by county). Further, concerns which supplied contract services for others were required to submit a separate report for each State. (In this instance also, information on employment, receipts for services, and capital expenditures was requested by county.)

In the 1967 census, for the first time, approximately 10,000 single-unit establishments with 1 to 4 employees were excused from filing reports. Under special arrangements which safeguarded the confidentiality of both tax and census records, limited data on payrolls, sales, and industry classification from the administrative records of the Social Security Administration and the Internal Revenue Service were made available to the Census Bureau for use in the 1967 censuses of business, manufactures, and mineral industries. Estimates for data other than payrolls and sales for these small establishments were constructed from industry averages. The effect on industry aggregates is slight in most industries. For mining as a whole, they account for less than 1 percent of value added. In industry 1481, these small establishments accounted for approximately 4 percent of value added.

In the 1967 Census of Mineral Industries, data for all single-unit establishments without paid employees were excluded because of the difficulty in

developing a mailing list for these establishments. The exclusion of these establishments has had only a slight effect on industry aggregates for most industries. Data for establishments without employees were included in the 1963, 1958, and 1954 censuses if these establishments reported more than \$500 in one of the following data items: (1) value of shipments and receipts, (2) cost of supplies and purchased machinery, or (3) capital expenditures. In the 1963 census, establishments without paid employees for mining as a whole accounted for approximately 3 percent of value added, while they accounted for less than 1 percent of value added for industry 1481.

As in earlier censuses, a number of small establishments may have been misclassified as to industry. However, such possible misclassifications have no significant effect on the statistics other than the number of establishments. As indicated above, report forms were not mailed to very small establishments (less than 5 employees). The industry classifications for these establishments were assigned on the basis of brief descriptions of the general activity of the establishment. Where the description is incomplete or there are relatively fine lines of demarcation between industries or between mining and nonmining activity, the code assigned to an establishment could differ from that which would have been assigned on the basis of more complete product information. Therefore, the total establishment count should be reviewed as an approximation rather than a precise measurement. The counts of establishments with 20 or more employees are far more reliable than the total number of establishments.

More detailed figures for this industry will appear in the final census reports. Final reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each mineral industry and for each State are being issued. Final industry reports and final area reports will be published during the spring and fall of 1970. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C. 20233.

The 1967 Census of Mineral Industries is the 16th census of mineral establishments in the United States. For 1967, it was conducted jointly with the censuses of manufactures, retail trade, wholesale trade, and selected services under authority of Title 13 of the United States Code. Title 13 specified that a census of mineral industries be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7."

Appendix

EXPLANATION OF TERMS

(For a more complete discussion of these terms and the method of compiling the Census of Mineral Industries, see the Introduction to the 1963 Census of Mineral Industries, Volume I.)

All Employees--All full-time and part-time employees on the payrolls of operating mineral establishments for any part of the pay period ended nearest the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of the corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The number of production workers is the average of those for mid-month payroll periods of March, May, August, and November. The "all employee" number is the average number of production workers plus the number of other employees in mid-March.

Payroll--This item includes all forms of compensation such as salaries, wages, commissions, dismissal pay, all bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' Social Security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of these establishments, if a corporation; it excludes payments to the proprietor or partners, if an unincorporated concern. Respondents were told that in reporting they could follow the definition of payroll used for calculating the Federal withholding tax.

Production, Development, and Exploration Worker Man-Hours--The total man-hours figures represent all man-hours that production, development, and exploration workers worked both on active days during which there was production or development work, and inactive days, when only watchmen, inspectors, repairmen, and other maintenance men were on duty. They include all man-hours worked or paid for at the mining operations, except hours paid for vacations, holidays, or sick leave, when the employee was not at the establishment. Included are actual overtime hours, not straight-time equivalent hours. Man-hours of working proprietors or partners are excluded.

Cost of Supplies, etc., and Purchased Machinery--The 1967 census report forms requested information on supplies and purchased machinery installed; fuels and electric energy used; and contract work done by others for each establishment. These items included charges to both the current and capital accounts. The figures reported were to include items used during 1967 whether purchased, withdrawn from inventories, or received from other establishments of the company. For selected supplies and fuels and for electric energy, both quantity and cost data were requested. The cost data refer to direct charges actually paid or payable (after discounts) for items used during the year. Freight charges and other direct charges incurred by the establishment in acquiring the items are included. Where the company's records did not show actual amounts used, they were asked to approximate use by adding purchases (or receipts) during the year to opening inventory and subtracting closing inventory.

Separate figures were obtained for (a) selected supplies, minerals received for preparation, and purchased machinery installed; (b) electric energy purchased; (c) purchased fuels used for heat, power, or the generation of electricity; (d) contract work done by others; and (e) products bought and resold in the same condition. Supplies and equipment used in mine development, plant expansion, and capitalized repairs, which are chargeable to fixed assets accounts, were included, as were supplies furnished without charge to contractors for use at the mining operation and supplies sold to employees for use at the establishment. No data on such costs as advertising, insurance, telephone, and research and consulting services of other establishments; or on overhead costs, such as depreciation charges, rent, interest, and royalties were included in this item.

Specific Supplies Used and Minerals Prepared--In addition to the total cost of supplies, etc., and purchased machinery which every establishment was required to report, information was also collected on the consumption of major supplies used in mining. These supplies inquiries were restricted to those supplies which were important parts of the cost of production, exploration, and development of a particular industry and for which cost information was available from the firms' records. Information regarding the specific supplies consumed is shown in table 4.

On report forms for almost all mineral industries, except the contract services industries, a uniform inquiry was included on minerals prepared at the reported establish-

ments. Figures were obtained on minerals prepared from three sources: (1) Crude minerals mined at the establishment (quantity); (2) crude minerals received from other establishments of the company or purchased from others (quantity and cost); and (3) crude minerals received for preparation on a custom or toll basis (quantity and estimated value).

Establishments consuming less than a specified amount (usually \$5,000) were not requested to report the cost of a supply separately. Also, the cost of supplies for small establishments for which administrative records were used were imputed as "not specified by kind." (See text for importance of administrative records in the industry.)

Capital Expenditures--In the 1967 census, mining companies were asked to report expenditures made during the year for development and exploration of mineral properties, for new construction, and for machinery purchased at their operations that was chargeable to fixed assets accounts of the mineral establishment and were of a type for which depreciation, depletion, or Office of Minerals Exploration accounts were ordinarily maintained. Capital expenditures during 1967 were to be determined as "additions completed during the year plus construction in progress at the end of the year minus construction in progress at the beginning of the year." Reported capital expenditures were to include work done on contract as well as by the mine forces. Expenditures for machinery and equipment were to include those made for replacement purposes, as well as those for additions to capacity. Excluded from such expenditures totals are costs of maintenance and repairs charged as current operating expense. Also excluded are expenditures for land and mineral rights.

Wherever applicable, separate figures were provided for expenditures for (a) development and exploration of mineral property, (b) preparation plant construction and other construction, (c) new machinery and equipment, and (d) used plant and used equipment acquired from others.

Value of Shipments--The amounts under value of shipments are the values, f.o.b., mine, well, or plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts such as receipts for contract work performed for others, installation and repair, sales of scrap, and sale of products bought and resold without further processing. Included are all items produced by

the establishments and sold, transferred to other plants of the same company, or shipped on consignment.

In the case of multiunit companies, the firm was requested to report the value of products transferred to other establishments of the same company at full economic or commercial value, i.e., include not only the direct costs of production but also a reasonable proportion of "all other costs" (including company overhead) and profit.

Individual Products--In the 1967 Census of Mineral Industries, information on output of about 225 individual mineral product items was collected.

In general, the 1967 and 1963 minerals censuses figures were confined to separate totals for each crude and each prepared mineral. Where significant, separate shipments figures were also obtained for crude minerals going to preparation plants and those going to consumers.

Figures were collected on both quantity and value of shipments. Shipments include commercial shipments and transfers of products to other operations of the same company. For products which are used to a significant extent within the same establishment for power or heat, and for minerals mined and prepared in the same establishment, total production or separate data on production for such uses were collected. Typically, production was also collected for products for which there are usually significant differences between total production and total shipments as a result of stock changes.

For service industries, the amount received or due for services performed during 1967 was collected as a measure of output. For mine operators who also perform services, the amount received for such services was added to the total value of products shipped to determine total value of shipments and receipts for each establishment.

Table 3 of the individual industry reports provides the national and regional total shipments from all industries for each of the products primary to the industries covered in the report.

Shipments and Production--Shipments figures include all products physically shipped from the establishment during 1967, including material withdrawn from stockpiles and products shipped on consignment, whether or not sold in 1967. Prepared material or concentrates include prep-

aration from ores mined at the same establishment, purchased, received from other operations of the same company, or received for milling on a custom or toll basis. For products transferred to other establishments of the same company or prepared on a custom basis, the company was requested to include, in addition to direct costs of production, a reasonable proportion of company overhead and profits.

For industry and industry group totals, some duplication is introduced by the inclusion of materials transferred from one establishment to another for mineral preparation. Wherever value of shipments is shown without further specification, it represents gross shipments.

For years prior to 1954, data on shipments were not collected. Instead, the report forms requested data on the quantity and value of

production. In general, the data for these years were edited to represent net production, excluding duplications due to mining and later preparing the same material in the same industry.

Value Added in Mining--Since the 1954 census, this measure has been computed by subtracting the cost of supplies, etc., and purchased machinery from the sum of value of shipments and receipts and capital expenditures. This statistic avoids the duplication in value of shipments which results from the use of products of some establishments as supplies, energy sources, or materials by others. Moreover, it provides a measure of value added not only in mineral production, but also in the development of mineral properties. For these reasons, it is considered to be the best value measure for comparing the relative economic importance of mining among industries and geographic areas.

U.S. DEPARTMENT OF COMMERCE
Bureau of the Census
Washington, D.C. 20233

OFFICIAL BUSINESS



POSTAGE AND FEES PAID
U.S. DEPARTMENT OF COMMERCE



1967 Census of MINERAL INDUSTRIES

INDUSTRY SERIES



U.S. DEPARTMENT OF COMMERCE / Bureau of the Census

preliminary report

MIC67(P)-14E-2

Gypsum

SIC Code 1492

The Gypsum Industry includes establishments primarily engaged in mining, quarrying, milling, or otherwise preparing gypsum. Calcining activities are excluded. However, if a gypsum mine is part of an establishment producing gypsum or other manufactured products, the entire establishment is classified in the manufacturing industry 3275, Gypsum Products, or in another appropriate manufacturing industry. In 1967, about two-thirds of all gypsum produced was mined at such establishments.

This report includes figures for administrative offices, warehouses, storage facilities, and other auxiliary units which service mining establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions contained in the 1967 edition of the Standard Industrial Classification (SIC) Manual.

In 1967, the value of products shipped and miscellaneous receipts of establishments classified in the Gypsum Industry amounted to \$9.3 million, a decrease of 8.8 percent compared with 1963. Value added in mining amounted to \$7.3 million in 1967, a decrease of 6.4 percent from 1963. Average employment in the industry showed a decrease of 20.0 percent from 1963 to a total of 0.4 thousand employees in 1967.

For an explanation of the terms used in the tables, see appendix at the end of this report.

TABLE 1. General Statistics: 1967 and Earlier Years

(See appendix, "Explanation of Terms")

Year	Establishments		All employees		Production, development, and exploration workers			Value added in mining (million dollars)	Cost of supplies, etc., and purchased machinery installed (million dollars)	Value of shipments and receipts (million dollars)	Capital expenditures (million dollars)
	Total (number)	With 20 employees or more (number)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Man-hours (millions)	Wages (million dollars)				
	INDUSTRY 1492.--GYPSUM INDUSTRY AND GYPSUM MINES IN MANUFACTURES										
1967, total.....	67	12	0.9	5.2	0.8	1.7	4.8	30.3	4.5	34.3	(NA)
Gypsum industry.....	33	5	0.4	2.3	0.3	0.7	1.9	7.3	2.5	9.3	0.6
Gypsum mines in manufactures.....	34	7	¹ 0.5	¹ 2.9	¹ 0.5	1.0	2.9	23.0	² 2.0	³ 25.0	(NA)
1963, total.....	74	22	1.2	6.0	1.1	2.2	5.5	33.6	6.5	38.9	(NA)
Gypsum industry.....	37	6	0.5	2.4	0.4	0.8	1.9	7.8	3.7	10.2	1.3
Gypsum mines in manufactures.....	37	16	¹ 0.7	¹ 3.6	¹ 0.7	1.4	3.6	25.9	² 2.8	³ 28.7	(NA)
1958, total.....	64	20	1.3	5.6	1.2	2.5	5.3	29.8	5.2	34.2	(NA)
Gypsum industry.....	32	4	0.4	1.8	0.4	0.8	1.5	6.0	1.9	7.0	0.8
Gypsum mines in manufactures.....	32	16	¹ 0.9	¹ 3.8	¹ 0.9	1.7	3.8	23.8	² 3.3	³ 27.1	(NA)
1954, total.....	64	(NA)	1.5	5.9	1.4	3.0	5.6	27.6	6.6	31.9	(NA)
Gypsum industry.....	37	5	0.4	1.9	0.4	0.9	1.6	5.4	3.7	6.6	2.4
Gypsum mines in manufactures.....	27	(NA)	¹ 1.0	¹ 4.0	¹ 1.0	2.1	4.0	22.3	² 2.9	³ 25.2	(NA)
1939.....	⁴ 59	(NA)	1.4	1.9	1.3	2.5	1.6	3.8	⁵ 0.8	⁶ 4.6	(NA)
1929 ⁷	60	(NA)	2.2	2.9	2.1	(NA)	2.6	4.5	⁵ 1.8	⁶ 5.7	(NA)
1919.....	47	(NA)	2.5	3.0	2.2	(NA)	2.5	4.6	2.2	6.8	(NA)
1909.....	82	(NA)	3.9	2.4	3.5	(NA)	1.8	4.2	1.6	5.8	(NA)
1902.....	⁴ 62	(NA)	1.7	1.1	⁸ 1.5	(NA)	0.8	1.7	⁵ 0.3	⁶ 2.1	(NA)
1889.....	⁴ 24	(NA)	0.8	0.2	⁹ 0.7	(NA)	(NA)	0.6	⁵ 0.1	⁶ 0.8	(NA)

Note: Detail may not add to the total because of independent rounding. (NA) Not available.

¹Number of production, development, and exploration workers was estimated from reported figures for man-hours. No data were obtained on other employees at such operations; hence, the same employment and payroll figures are shown for all employees as for production, development, and exploration workers.²Excludes the cost of purchased machinery.³Includes the estimated value of gypsum produced and used in the same establishment in the manufacture of calcined gypsum products.⁴Represents number of mines.⁵Excludes the cost of minerals received for preparation.⁶Represents the value of net shipments and receipts.⁷Excludes one nonproducing establishment for which separate figures are not available.⁸Figures for average employment were reduced to a 300-day basis for establishments which operated for a shorter period.⁹Represents the average number employed during the time the mines were active.

TABLE 2. General Statistics, by Geographic Areas: 1967 and 1963

(See appendix, "Explanation of Terms")

(See appendix, "Explanation of Terms.")

Geographic area	1967										1963		
	Establishments		All employees		Production, development, and exploration workers			Value added in mining (million dollars)	Cost of supplies, etc., and purchased machinery installed (million dollars)	Value of shipments and receipts (million dollars)	Capital expenditures (million dollars)	All employees (1,000)	Value added in mining (million dollars)
	Total (number)	With 20 employees or more (number)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Man-hours (millions)	Wages (million dollars)						
	INDUSTRY 1492.--GYPSUM												
United States, total.	33	5	0.4	2.3	0.3	0.7	1.9	7.3	2.5	9.3	0.6	0.5	7.8
Northeast and East North Central.....	4	2	0.2	1.0	0.1	0.3	0.8	3.4	1.0	4.2	0.1	(NA)	(NA)
West South Central.....	7	2	0.1	0.7	0.1	0.3	0.7	1.6	0.9	2.3	0.1	0.1	1.1
Oklahoma.....	4	-	(Z)	0.1	(Z)	(Z)	0.1	0.3	0.7	1.0	0.1	(NA)	(NA)
West.....	22	1	0.1	0.6	0.1	0.2	0.5	2.3	0.7	2.7	0.3	0.2	2.9
Mountain.....	14	-	0.1	0.3	(Z)	0.1	0.2	1.0	0.3	1.2	0.2	0.1	1.1
Pacific.....	8	1	0.1	0.4	(Z)	0.1	0.2	1.3	0.4	1.6	0.1	0.1	1.8
	GYPSUM MINES AT MANUFACTURING ESTABLISHMENTS												
United States, total.	34	7	¹ 0.5	¹ 2.9	¹ 0.5	1.0	2.9	23.0	² 2.0	³ 25.0	(NA)	¹ 0.7	25.9
Middle Atlantic (New York).....	4	1	¹ 0.1	¹ 0.5	¹ 0.1	0.2	0.5	1.6	² 0.4	³ 2.0	(NA)	(NA)	(NA)
East North Central.....	6	3	¹ 0.1	¹ 0.8	¹ 0.1	0.3	0.8	4.7	² 0.5	³ 5.2	(NA)	(NA)	(NA)
West North Central.....	7	1	¹ 0.1	¹ 0.4	¹ 0.1	0.2	0.4	5.9	² 0.3	³ 6.2	(NA)	¹ 0.1	6.4
South.....	9	2	¹ 0.2	¹ 0.8	¹ 0.2	0.3	0.8	6.7	² 0.6	³ 7.3	(NA)	¹ 0.2	6.0
Texas.....	5	-	(Z)	¹ 0.2	(Z)	0.1	0.2	3.6	² 0.2	³ 3.7	(NA)	(NA)	(NA)
West.....	8	-	¹ 0.1	¹ 0.3	¹ 0.1	0.1	0.3	4.1	² 0.2	³ 4.3	(NA)	¹ 0.1	7.0

Note: Detail may not add to total because of independent rounding. (NA) Not available. (Z) Less than one-half of the unit of measure specified.

¹The number of production, development, and exploration workers was estimated from reported figures for man-hours. No data were obtained on other employees at such operations; hence, the same employment and payroll figures are shown for all employees as for production, development, and exploration workers.

²Excludes the cost of purchased machinery.

³Includes the estimated value of gypsum produced and used in the same establishment in the manufacture of calcined gypsum products.

**Table 3. Production and Quantity and Value of Shipments by All Producers,
by Geographic Areas: 1967 and 1963**

(Includes production and quantity and value of products reported not only by establishments classified in this industry, but also by establishments classified in other industries, and shipping these products as "secondary" products. See appendix under "Individual Products")

Product code	Product	1967			1963		
		Production (1,000 short tons)	Shipments including interplant transfers		Production (1,000 short tons)	Shipments including interplant transfers	
			Quantity (1,000 short tons)	Value (million dollars)		Quantity (1,000 short tons)	Value (million dollars)
1492- --	GYPSUM.....	(X)	(X)	¹ 14.9	(X)	(X)	¹ 14.4
	UNITED STATES						
14921 01	Crude gypsum, total.....	9,229.5	585.1	1.5	10,176.0	339.0	1.1
	Produced by mines classified in the Gypsum Industry.....	3,017.3	585.1	1.5	3,246.0	339.0	1.1
	Produced by mines included in establishments classified in manufacturing industries ²	6,212.2	-	-	6,930.0	-	-
14922 01 32950 61	Crushed, ground, screened, or dried gypsum, total.....	(NA)	5,021.1	23.0	(NA)	4,736.0	19.8
	Produced at preparation plants included in establishments classified in the Gypsum Industry.....	2,409.6	2,430.8	7.7	2,837.0	2,812.0	8.5
	Produced at preparation plants included in establishments classified in manufacturing industries.....	(NA)	2,590.3	15.3	(NA)	1,924.0	11.2
	NORTHEAST AND NORTH CENTRAL						
14921 01	Crude gypsum, total.....	4,783.3	-	-	4,602.0	-	-
	Produced by mines classified in the Gypsum Industry.....	1,332.3	-	-	1,241.0	-	-
	Produced by mines included in establishments classified in manufacturing industries ²	3,451.0	-	-	3,361.0	-	-
14922 01 32950 61	Crushed, ground, screened, or dried gypsum.....	(NA)	2,370.9	10.8	(NA)	2,054.0	9.2
14921 01	Middle Atlantic (New York); crude gypsum.....	568.6	-	-	615.0	-	-
14921 01	East North Central, crude gypsum.....	2,525.1	-	-	2,348.0	-	-
14921 01	West North Central, crude gypsum.....	1,689.6	-	-	1,639.0	-	-
	SOUTH						
14921 01	Crude gypsum, total.....	2,347.8	(D)	(D)	2,064.0	(D)	(D)
	Produced by mines classified in the Gypsum Industry.....	649.5	(D)	(D)	402.0	(D)	(D)
	Produced by mines included in establishments classified in manufacturing industries ²	1,698.3	-	-	1,662.0	-	-
14922 01 32950 61	Crushed, ground, screened, or dried gypsum.....	(NA)	1,190.3	6.4	(NA)	1,032.0	5.2
	Oklahoma:						
14921 01	Crude gypsum.....	810.3	(D)	(D)	557.0	(D)	(D)
14922 01	Crushed, ground, screened, or dried gypsum.....	(NA)	207.7	0.9	(NA)	(NA)	(NA)
14921 01	Texas, crude gypsum.....	903.7	-	-	1,004.0	-	-
	WEST						
14921 01	Crude gypsum, total.....	2,098.4	(D)	(D)	3,510.0	(D)	(D)
	Produced by mines classified in the Gypsum Industry.....	1,035.5	(D)	(D)	1,603.0	(D)	(D)
	Produced by mines included in establishments classified in manufacturing industries ²	1,062.9	-	-	1,907.0	-	-
14922 01 32950 61	Crushed, ground, screened, or dried gypsum.....	(NA)	1,459.9	5.8	(NA)	1,650.0	5.4
	Mountain:						
14921 01	Crude gypsum.....	926.3	(D)	(D)	(NA)	(NA)	(NA)
14922 01 32950 61	Crushed, ground, screened, or dried gypsum.....	(NA)	566.8	2.6	(NA)	(NA)	(NA)
	Nevada:						
14921 01	Crude gypsum.....	432.7	-	-	854.0	-	-
14922 01	Crushed, ground, screened, or dried gypsum.....	(NA)	245.9	0.9	(NA)	(NA)	(NA)
	Pacific:						
14921 01	Crude gypsum.....	1,172.1	(D)	(D)	(NA)	(NA)	(NA)
14922 01 32950 61	Crushed, ground, screened, or dried gypsum.....	(NA)	893.2	3.2	(NA)	(NA)	(NA)

Note: Detail may not add to total because of independent rounding.

- Represents zero. (D) Withheld to avoid disclosing figures for individual companies. (NA) Not available. (X) Not applicable.

¹Excludes product code 32950 61 which is included in the detail below.

²Includes gypsum produced and used in the same establishment in manufacturing gypsum products.

Table 4. Selected Supplies, Minerals for Preparation, and Purchased Machinery Installed: 1967 and 1963

(See appendix, "Explanation of Terms")

Code	Supplies	Unit of measure	1967		1963	
			Quantity	Cost (million dollars)	Quantity	Cost (million dollars)
	INDUSTRY 1492.--GYPSUM					
	Selected supplies, minerals for preparation, and purchased machinery installed, total.....		(X)	1.7	(X)	2.7
147091	Minerals for preparation: Mined and prepared at the same establishment in the Gypsum Industry.....	1,000 short tons..	2,419.2	(X)	2,838.0	(X)
353011	Purchased machinery installed.....		(X)	0.4	(X)	0.9
	Supplies used:					
289211	Explosive materials, except ammonium nitrate.....					
289212	Ammonium nitrate.....					
289214	Blasting accessories.....					
331201	Steel mill shapes and forms.....					
970099	All other supplies.....		(X)	1.3	(X)	1.9
976000	Selected supplies, minerals for preparation, and purchased machinery installed, n.s.k. ¹					

Note: Detail may not add to total because of independent rounding.

n.s.k. Not specified by kind. (X) Not applicable.

¹This item represents the total cost of supplies for establishments that did not report detailed supplies. For 1967, this also includes estimates for establishments that were not mailed report forms.

SCOPE AND COVERAGE

This report is one of a series presenting preliminary information on industries and products from the 1967 Census of Mineral Industries. The data will be superseded in a final report which in turn will be included in Volume 1, Summary and Industry Statistics, 1967 Census of Mineral Industries. That report will include a comprehensive discussion of the concepts and definitions used in the census.

The census of mineral industries covers each mining establishment of firms in the United States with one or more paid employees. Firms which operate more than one establishment were required to file a separate report for each location. Companies which engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation and the activities were of significant size.

For oil and gas field operation and contract services, reports were required for units somewhat different from the "establishment" reporting unit used for other types of mining. Every concern which operated oil and gas wells, drilled such wells for its own account or for others, performed exploration work for oil or gas, or performed oil and gas field services for others during any part of calendar year 1967 was required to submit a separate report for each State or for each district within Texas, Louisiana, New Mexico, and California (however, information on employment, oil and gas production, and capital expenditures was requested by county). Further, concerns which supplied contract services for others were required to submit a separate report for each State. (In this instance also, information on employment, receipts for services, and capital expenditures was requested by county.)

In the 1967 census, for the first time, approximately 10,000 single-unit establishments with 1 to 4 employees were excused from filing reports. Under special arrangements which safeguarded the confidentiality of both tax and census records, limited data on payrolls, sales, and industry classification from the administrative records of the Social Security Administration and the Internal Revenue Service were made available to the Census Bureau for use in the 1967 censuses of business, manufactures, and mineral industries. Estimates for data other than payrolls and sales for these small establishments were constructed from industry averages. The effect on industry aggregates is slight in most industries. For mining as a whole, they account for less than 1 percent of value added. In industry 1492, these small establishments accounted for less than 1 percent of value added.

In the 1967 Census of Mineral Industries, data for all single-unit establishments without paid employees were excluded because of the difficulty in

developing a mailing list for these establishments. The exclusion of these establishments has had only a slight effect on industry aggregates for most industries. Data for establishments without employees were included in the 1963, 1958, and 1954 censuses if these establishments reported more than \$500 in one of the following data items: (1) value of shipments and receipts, (2) cost of supplies and purchased machinery, or (3) capital expenditures. In the 1963 census, establishments without paid employees for mining as a whole accounted for approximately 3 percent of value added, while they accounted for less than 1 percent of value added for industry 1492.

As in earlier censuses, a number of small establishments may have been misclassified as to industry. However, such possible misclassifications have no significant effect on the statistics other than the number of establishments. As indicated above, report forms were not mailed to very small establishments (less than 5 employees). The industry classifications for these establishments were assigned on the basis of brief descriptions of the general activity of the establishment. Where the description is incomplete or there are relatively fine lines of demarcation between industries or between mining and nonmining activity, the code assigned to an establishment could differ from that which would have been assigned on the basis of more complete product information. Therefore, the total establishment count should be reviewed as an approximation rather than a precise measurement. The counts of establishments with 20 or more employees are far more reliable than the total number of establishments.

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Appendix

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(For a more complete discussion of these terms and the method of compiling the Census of Mineral Industries, see the Introduction to the 1963 Census of Mineral Industries, Volume I.)

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Separate figures were obtained for (a) selected supplies, minerals received for preparation, and purchased machinery installed; (b) electric energy purchased; (c) purchased fuels used for heat, power, or the generation of electricity; (d) contract work done by others; and (e) products bought and resold in the same condition. Supplies and equipment used in mine development, plant expansion, and capitalized repairs, which are chargeable to fixed assets accounts, were included, as were supplies furnished without charge to contractors for use at the mining operation and supplies sold to employees for use at the establishment. No data on such costs as advertising, insurance, telephone, and research and consulting services of other establishments; or on overhead costs, such as depreciation charges, rent, interest, and royalties were included in this item.

Specific Supplies Used and Minerals Prepared--In addition to the total cost of supplies, etc., and purchased machinery which every establishment was required to report, information was also collected on the consumption of major supplies used in mining. These supplies inquiries were restricted to those supplies which were important parts of the cost of production, exploration, and development of a particular industry and for which cost information was available from the firms' records. Information regarding the specific supplies consumed is shown in table 4.

On report forms for almost all mineral industries, except the contract services industries, a uniform inquiry was included on minerals prepared at the reported establish-

ments. Figures were obtained on minerals prepared from three sources: (1) Crude minerals mined at the establishment (quantity); (2) crude minerals received from other establishments of the company or purchased from others (quantity and cost); and (3) crude minerals received for preparation on a custom or toll basis (quantity and estimated value).

Establishments consuming less than a specified amount (usually \$5,000) were not requested to report the cost of a supply separately. Also, the cost of supplies for small establishments for which administrative records were used were imputed as "not specified by kind." (See text for importance of administrative records in the industry.)

Capital Expenditures--In the 1967 census, mining companies were asked to report expenditures made during the year for development and exploration of mineral properties, for new construction, and for machinery purchased at their operations that was chargeable to fixed assets accounts of the mineral establishment and were of a type for which depreciation, depletion, or Office of Minerals Exploration accounts were ordinarily maintained. Capital expenditures during 1967 were to be determined as "additions completed during the year plus construction in progress at the end of the year minus construction in progress at the beginning of the year." Reported capital expenditures were to include work done on contract as well as by the mine forces. Expenditures for machinery and equipment were to include those made for replacement purposes, as well as those for additions to capacity. Excluded from such expenditures totals are costs of maintenance and repairs charged as current operating expense. Also excluded are expenditures for land and mineral rights.

Wherever applicable, separate figures were provided for expenditures for (a) development and exploration of mineral property, (b) preparation plant construction and other construction, (c) new machinery and equipment, and (d) used plant and used equipment acquired from others.

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the establishments and sold, transferred to other plants of the same company, or shipped on consignment.

In the case of multiunit companies, the firm was requested to report the value of products transferred to other establishments of the same company at full economic or commercial value, i.e., include not only the direct costs of production but also a reasonable proportion of "all other costs" (including company overhead) and profit.

Individual Products--In the 1967 Census of Mineral Industries, information on output of about 225 individual mineral product items was collected.

In general, the 1967 and 1963 minerals censuses figures were confined to separate totals for each crude and each prepared mineral. Where significant, separate shipments figures were also obtained for crude minerals going to preparation plants and those going to consumers.

Figures were collected on both quantity and value of shipments. Shipments include commercial shipments and transfers of products to other operations of the same company. For products which are used to a significant extent within the same establishment for power or heat, and for minerals mined and prepared in the same establishment, total production or separate data on production for such uses were collected. Typically, production was also collected for products for which there are usually significant differences between total production and total shipments as a result of stock changes.

For service industries, the amount received or due for services performed during 1967 was collected as a measure of output. For mine operators who also perform services, the amount received for such services was added to the total value of products shipped to determine total value of shipments and receipts for each establishment.

Table 3 of the individual industry reports provides the national and regional total shipments from all industries for each of the products primary to the industries covered in the report.

Shipments and Production--Shipments figures include all products physically shipped from the establishment during 1967, including material withdrawn from stockpiles and products shipped on consignment, whether or not sold in 1967. Prepared material or concentrates include prep-

aration from ores mined at the same establishment, purchased, received from other operations of the same company, or received for milling on a custom or toll basis. For products transferred to other establishments of the same company or prepared on a custom basis, the company was requested to include, in addition to direct costs of production, a reasonable proportion of company overhead and profits.

For industry and industry group totals, some duplication is introduced by the inclusion of materials transferred from one establishment to another for mineral preparation. Wherever value of shipments is shown without further specification, it represents gross shipments.

For years prior to 1954, data on shipments were not collected. Instead, the report forms requested data on the quantity and value of

production. In general, the data for these years were edited to represent net production, excluding duplications due to mining and later preparing the same material in the same industry.

Value Added in Mining--Since the 1954 census, this measure has been computed by subtracting the cost of supplies, etc., and purchased machinery from the sum of value of shipments and receipts and capital expenditures. This statistic avoids the duplication in value of shipments which results from the use of products of some establishments as supplies, energy sources, or materials by others. Moreover, it provides a measure of value added not only in mineral production, but also in the development of mineral properties. For these reasons, it is considered to be the best value measure for comparing the relative economic importance of mining among industries and geographic areas.



1967 Census of MINERAL INDUSTRIES

INDUSTRY SERIES



U.S. DEPARTMENT OF COMMERCE/Bureau of the Census

preliminary report

MIC67(P)-14E-3

Mica

SIC Code 1493

The Mica Industry includes establishments primarily engaged in mining, milling, or otherwise preparing mica. Establishments engaged in grinding mica which do not include a mine are classified in the manufacturing Industry 3295, Minerals and Earths, Ground or Otherwise Treated.

This report includes figures for administrative offices, warehouses, storage facilities, and other auxiliary units which service mining establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions contained in the 1967 edition

of the Standard Industrial Classification (SIC) Manual.

In 1967, the value of products shipped and miscellaneous receipts of establishments classified in the Mica Industry amounted to \$6.7 million, an increase of 19.6 percent compared with 1963. Value added in mining amounted to \$5.3 million in 1967, an increase of 35.9 percent from 1963. Average employment in the industry showed a decrease of 25.0 percent from 1963 to a total of 0.3 thousand employees in 1967.

For an explanation of the terms used in the tables, see appendix at the end of this report.

TABLE 1. General Statistics: 1967 and Earlier Years

(See appendix, "Explanation of Terms")

Year	Establishments		All employees		Production, development, and exploration workers			Value added in mining	Cost of supplies, etc., and purchased machinery installed	Value of shipments and receipts	Capital expendi- tures
	Total	With 20 employ- ees or more	Number	Payroll	Number	Man-hours	Wages				
	(number)	(number)	(1,000)	(million dollars)	(1,000)	(millions)	(million dollars)	(million dollars)	(million dollars)	(million dollars)	(million dollars)
INDUSTRY 1493.--MICA											
1967.....	19	5	0.3	1.8	0.2	0.5	1.2	5.3	1.9	6.7	0.4
1963.....	34	6	0.4	1.6	0.4	0.7	1.3	3.9	2.5	5.6	0.9
1958.....	149	8	0.7	2.0	0.6	1.2	1.7	5.0	2.4	6.2	1.2
1954 ¹	498	6	0.7	1.3	0.7	1.2	1.3	3.3	1.7	4.1	0.9
1939.....	² 21	(NA)	0.2	0.1	0.2	0.4	0.1	0.3	³ 0.1	⁴ 0.3	(NA)
1929 ⁵	24	(NA)	0.2	0.3	0.2	(NA)	0.2	0.4	³ 0.1	⁴ 0.5	(NA)
1919 ⁵	65	(NA)	0.5	0.3	0.4	(NA)	0.3	0.5	0.1	0.6	(NA)
1909.....	77	(NA)	0.3	0.1	0.3	(NA)	0.1	0.2	(Z)	0.2	(NA)
1902.....	² 49	(NA)	0.1	0.1	⁶ 0.1	(NA)	(Z)	0.1	(Z)	⁴ 0.1	(NA)
1889.....	24	(NA)	0.2	(Z)	⁷ 0.1	(NA)	(Z)	(Z)	(Z)	0.1	(NA)
1880.....	² 22	(NA)	0.3	0.1	(NA)	(NA)	(NA)	0.1	(Z)	0.1	(NA)

(NA) Not available. (Z) Less than \$50 thousand.

¹Excludes data for one establishment with no employees in Alaska.

²Represents number of mines.

³Excludes the cost of minerals received for preparation.

⁴Represents value of net shipments and receipts.

⁵Excludes one nonproducing establishment in 1929 and one nonproducing establishment in 1919, for which separate figures are not available.

⁶Figures for average employment were reduced to a 300-day basis for establishments which operated for a shorter period.

⁷Represents the average number employed during the time the mines were active.

TABLE 2. General Statistics, by Geographic Areas: 1967 and 1963

(See appendix, "Explanation of Terms")

Geographic area	1967										1963		
	Establishments		All employees		Production, development, and exploration workers			Value added in mining (million dollars)	Cost of supplies, etc., and purchased machinery installed (million dollars)	Value of shipments and receipts (million dollars)	Capital expendi- tures (million dollars)	All employees (1,000)	Value added in mining (million dollars)
	Total	With 20 employ- ees or more	Number	Payroll	Number	Man-hours	Wages						
	(number)	(number)	(1,000)	(million dollars)	(1,000)	(millions)	(million dollars)						
INDUSTRY 1493.--MICA													
United States, total..	19	5	0.3	1.8	0.2	0.5	1.2	5.3	1.9	6.7	0.4	0.4	3.9
South.....	14	4	0.3	1.3	0.2	0.5	0.9	3.0	1.6	4.3	0.3	0.3	3.4
North Carolina.....	10	3	0.2	0.9	0.1	0.3	0.6	1.6	1.1	2.6	0.1	0.2	2.1

Table 3. Production and Quantity and Value of Shipments by All Producers, by Geographic Areas: 1967 and 1963

(Includes production and quantity and value of products reported not only by establishments classified in this industry, but also by establishments classified in other industries, and shipping these products as "secondary" products. See appendix under "Individual Products")

Product code	Product	1967			1963		
		Production (1,000 short tons)	Shipments including interplant transfers		Production (1,000 short tons)	Shipments including interplant transfers	
			Quantity (1,000 short tons)	Value (million dollars)		Quantity (1,000 short tons)	Value (million dollars)
1493- --	MICA, TOTAL.....	(X)	(X)	7.0	(X)	(X)	¹ 5.6
	UNITED STATES						
14931 02	Hand-cobbed and sheet mica.....	² (NA)	² (NA)	² (NA)	³ 108.0	³ 108.0	(Z)
14931 05	Scrap (or flake) mica.....	156.0	⁴ 35.0	⁴ 1.1	113.3	⁴ 42.4	⁴ 1.3
14932 01	Ground mica, total.....	(NA)	(NA)	(NA)	(NA)	124.1	7.5
	Mined and processed at establishments classified in the mineral industries.....	119.6	119.7	5.9	87.1	86.6	4.3
	Processed at establishments classified in the manufacturing industries.....	(NA)	(NA)	(NA)	(NA)	37.5	3.2
	NORTH CAROLINA						
14931 05	Scrap (or flake) mica.....	71.2	⁴ 26.1	⁴ 0.8	58.1	⁴ 21.0	⁴ 0.6
14932 01	Ground mica mined and processed at establishments classified in the mineral industries.....	44.8	45.0	2.2	(NA)	⁵ 64.2	⁵ 3.9

Note: Detail may not add to the total because of independent rounding.

(NA) Not available. (X) Not applicable. (Z) Less than \$50 thousand.

¹Excludes data for ground mica produced at establishments classified in manufacturing industries and shown separately below.

²In 1967, no establishment reported any production or shipments of either hand-cobbed mica or sheet mica. The U.S. Bureau of Mines, Department of Interior, reported 20,000 lbs. of sheet mica sold or used by producers in 1967.

³Quantity of production and shipments is in thousands of pounds.

⁴Represents net shipments, that is, gross shipments less minerals received from other establishments for preparation.

⁵Data includes ground mica processed at establishments classified in the manufacturing industries.

Table 4. Selected Supplies, Minerals Received for Preparation, and Purchased Machinery Installed: 1967 and 1963

(See appendix, "Explanation of Terms")

Code	Supplies	Unit of measure	1967		1963	
			Quantity	Cost (million dollars)	Quantity	Cost (million dollars)
	INDUSTRY 1493.--MICA					
	Selected supplies, minerals received for preparation, and purchased machinery installed, total.....		(X)	1.2	(X)	¹ 1.9
147091	Minerals mined and received for preparation:					
	Mined and prepared at same establishment.....	(1,000 short tons)	119.3	(X)	86.6	(X)
	Received for preparation.....		(X)	(²)	(X)	¹ 0.3
353011	Purchased machinery installed.....		(X)	0.3	(X)	0.5
	Supplies used:					
331201	Steel mill shapes and forms.....					
970099	All other supplies.....					
976000	Selected supplies, minerals received for preparation, and purchased machinery installed, n.s.k. ³		(X)	² 0.8	(X)	1.1

Note: Detail may not add to the total because of independent rounding.

n.s.k. Not specified by kind. (X) Not applicable.

¹Includes purchases for resale.²Cost of minerals received for preparation is included with cost of all other supplies.³This item represents the total cost of supplies for establishments that did not report detailed supplies data. For 1967, this also includes estimates for companies that were not mailed report forms.

SCOPE AND COVERAGE

This report is one of a series presenting preliminary information on industries and products from the 1967 Census of Mineral Industries. The data will be superseded in a final report which in turn will be included in Volume 1, Summary and Industry Statistics, 1967 Census of Mineral Industries. That report will include a comprehensive discussion of the concepts and definitions used in the census.

The census of mineral industries covers each mining establishment of firms in the United States with one or more paid employees. Firms which operate more than one establishment were required to file a separate report for each location. Companies which engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation and the activities were of significant size.

For oil and gas field operation and contract services, reports were required for units somewhat different from the "establishment" reporting unit used for other types of mining. Every concern which operated oil and gas wells, drilled such wells for its own account or for others, performed exploration work for oil or gas, or performed oil and gas field services for others during any part of calendar year 1967 was required to submit a separate report for each State or for each district within Texas, Louisiana, New Mexico, and California (however, information on employment, oil and gas production, and capital expenditures was requested by county). Further, concerns which supplied contract services for others were required to submit a separate report for each State. (In this instance also, information on employment, receipts for services, and capital expenditures was requested by county.)

In the 1967 census, for the first time, approximately 10,000 single-unit establishments with 1 to 4 employees were excused from filing reports. Under special arrangements which safeguarded the confidentiality of both tax and census records, limited data on payrolls, sales, and industry classification from the administrative records of the Social Security Administration and the Internal Revenue Service were made available to the Census Bureau for use in the 1967 censuses of business, manufactures, and mineral industries. Estimates for data other than payrolls and sales for these small establishments were constructed from industry averages. The effect on industry aggregates is slight in most industries. For mining as a whole, they account for less than 1 percent of value added. In industry 1493, these small establishments accounted for less than 1 percent of value added.

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For industry and industry group totals, some duplication is introduced by the inclusion of materials transferred from one establishment to another for mineral preparation. Wherever value of shipments is shown without further specification, it represents gross shipments.

For years prior to 1954, data on shipments were not collected. Instead, the report forms requested data on the quantity and value of

production. In general, the data for these years were edited to represent net production, excluding duplications due to mining and later preparing the same material in the same industry.

Value Added in Mining--Since the 1954 census, this measure has been computed by subtracting the cost of supplies, etc., and purchased machinery from the sum of value of shipments and receipts and capital expenditures. This statistic avoids the duplication in value of shipments which results from the use of products of some establishments as supplies, energy sources, or materials by others. Moreover, it provides a measure of value added not only in mineral production, but also in the development of mineral properties. For these reasons, it is considered to be the best value measure for comparing the relative economic importance of mining among industries and geographic areas.

U.S. DEPARTMENT OF COMMERCE
Bureau of the Census
Washington, D.C. 20233

OFFICIAL BUSINESS



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U.S. DEPARTMENT OF COMMERCE



1967 Census of MINERAL INDUSTRIES

INDUSTRY SERIES



U.S. DEPARTMENT OF COMMERCE / Bureau of the Census

preliminary report

Native asphalt and bitumens and Peat

SIC Codes 1494 and 1498

MIC67 P 14 E 4

The Native Asphalt and Bitumens Industry includes establishments primarily engaged in mining, milling, or otherwise preparing native asphalt and bitumens, including gilsonite, wurtzilite, grahamite, and ozokerite. The mining of bituminous sandstone and bituminous limestone is also included.

The Peat Industry represents establishments primarily engaged in mining peat, and in the preparation of peat.

This report includes figures for administrative offices, warehouses, storage facilities, and other auxiliary units which service mining establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions contained in the 1967 edition of the Standard Industrial Classification (SIC) Manual.

In 1967, the value of products shipped and miscellaneous receipts of establishments classified in the Native Asphalt and Bitumens Industry amounted to \$8.7 million, an increase of 2.4 percent compared with 1963. Value added in mining amounted to \$5.8 million in 1967, a decrease of 7.9 percent from 1963. Average employment in the industry showed an increase of 25.0 percent from 1963 to a total of 0.5 thousand employees in 1967.

In 1967, the value of products shipped and miscellaneous receipts of establishments classified in the Peat Industry amounted to \$8.5 million, an increase of 14.9 percent compared with 1963. Value adding in mining amounted to \$6.7 million in 1967, an increase of 19.6 percent from 1963. Average employment in the industry in 1967 was 0.5 thousand, approximately the same as 1963.

For an explanation of the terms used in the tables, see appendix at the end of this report.

1967 CENSUS OF MINERAL INDUSTRIES

TABLE 1. General Statistics: 1967 and Earlier Years

(See appendix, "Explanation of Terms")

Year	Establishments		All employees		Production, development, and exploration workers			Value added in mining (million dollars)	Cost of supplies, etc., and purchased machinery installed (million dollars)	Value of shipments and receipts (million dollars)	Capital expenditures (million dollars)
	Total	With 20 employees or more	Number	Payroll	Number	Man-hours	Wages				
	(number)	(number)	(1,000)	(million dollars)	(1,000)	(millions)	(million dollars)				
	INDUSTRY 1494. --NATIVE ASPHALT AND BITUMENS										
1967.....	13	7	0.5	3.0	0.4	0.8	2.2	5.8	¹ 3.7	8.7	0.8
1963.....	13	4	0.4	2.2	0.4	0.7	1.7	6.3	3.3	8.5	1.1
1958.....	10	5	0.5	2.3	0.4	0.7	1.4	6.0	2.8	8.0	0.7
1954.....	12	7	0.6	2.1	0.5	1.0	1.4	4.9	2.1	6.4	0.6
1939.....	² 23	(NA)	0.9	0.9	0.7	1.3	0.6	2.6	¹ 0.4	³ 3.0	(NA)
1929.....	21	(NA)	1.3	1.8	1.1	(NA)	1.3	4.3	¹ 1.0	³ 5.1	(NA)
1919.....	9	(NA)	0.4	0.4	0.3	(NA)	0.3	0.3	0.4	0.8	(NA)
1909 ⁴	² 12	(NA)	0.2	0.2	0.2	(NA)	0.1	0.4	0.1	0.5	(NA)
1902.....	24	(NA)	0.2	0.1	⁵ 0.2	(NA)	0.1	0.2	(Z)	³ 0.2	(NA)
1889 ⁶	(NA)	(NA)	0.1	0.1	⁷ 0.1	(NA)	0.1	0.2	(Z)	³ 0.2	(NA)
	INDUSTRY 1498. --PEAT										
1967.....	76	4	0.5	2.3	0.4	1.0	2.0	6.7	2.3	8.5	0.5
1963.....	109	4	0.5	1.8	0.4	0.9	1.5	5.6	2.6	7.4	0.9
1958.....	81	3	0.4	1.3	0.3	0.6	1.0	3.6	1.6	4.4	0.8
1954.....	88	3	0.4	0.9	0.3	0.6	0.8	1.8	0.7	2.3	0.2
1939 ⁴	² 25	(NA)	0.2	0.1	0.2	0.2	0.1	0.3	(Z)	³ 0.4	(NA)
1909 ⁴	10	(NA)	0.1	0.1	0.1	(NA)	(Z)	0.1	(Z)	0.1	(NA)

(NA) Not available. (Z) Less than \$50 thousand.

¹Excludes minerals received for preparation.²Represents number of mines.³Represents value of net shipments and receipts.⁴Excludes one nonproducing Peat mine and one nonproducing preparation plant in 1939, and two nonproducing Peat mines and two nonproducing Native asphalt and bitumens mines in 1909.⁵Figures for average employment were reduced to a 300-day basis for establishments which operated for a shorter period.⁶Only two establishments were reported in the Native Asphalt and Bitumens Industry in 1880, and one establishment in 1870 and 1860.⁷Represents the average number employed during the time the mines were active.

TABLE 2. General Statistics, by Geographic Areas: 1967 and 1963

(See appendix, "Explanation of Terms")

Geographic area	1967											1963	
	Establishments		All employees		Production, development, and exploration workers			Value added in mining (million dollars)	Cost of supplies, etc., and purchased machinery installed (million dollars)	Value of shipments and receipts (million dollars)	Capital expenditures (million dollars)	All employees (1,000)	Value added in mining (million dollars)
	Total	With 20 employees or more	Number	Payroll	Number	Man-hours	Wages						
	(number)	(number)	(1,000)	(million dollars)	(1,000)	(millions)	(million dollars)						
	INDUSTRY 1494.--NATIVE ASPHALT AND BITUMENS (Geographic data withheld to avoid disclosing figures for individual companies)												
	INDUSTRY 1498.--PEAT												
United States, total.	76	4	0.5	2.3	0.4	1.0	2.0	6.7	2.3	8.5	0.5	0.5	5.6
Northeast.....	19	-	0.1	0.4	0.1	0.1	0.3	0.8	0.5	1.2	0.1	0.1	0.6
North Central.....	28	4	0.3	1.5	0.3	0.7	1.3	4.7	1.4	5.8	0.3	0.3	4.1
South and West.....	29	-	0.1	0.4	0.1	0.2	0.4	1.2	0.4	1.5	0.1	0.1	0.9

Note: Detail may not add to the total because of independent rounding.

- Represents zero.

Table 3. Production and Quantity and Value of Shipments by All Producers: 1967 and 1963

(Includes production and quantity and value of products reported not only by establishments classified in this industry, but also by establishments classified in other industries, and shipping these products as "secondary" products. See appendix under "Individual Products")

Product code	Product and geographic areas	1967			1963		
		Production (1,000 short tons)	Shipments including interplant transfers		Production (1,000 short tons)	Shipments including interplant transfers	
			Quantity (1,000 short tons)	Value (million dollars)		Quantity (1,000 short tons)	Value (million dollars)
1494- --	NATURAL ASPHALT AND BITUMENS, TOTAL.....	(X)	(X)	8.7	(X)	(X)	8.8
14940 01	Bituminous limestone.....	1,693.5 (D)	1,693.5 (D)	8.7	1314.0 (D)	1,317.0 (D)	8.8
14940 03	Bituminous sandstone.....						
14940 05	Gilsonite.....						
14980 00	PEAT, TOTAL.....	587.2	587.6	8.4	566.0	549.0	7.4
	Region:						
	Northeast.....	123.0	120.8	1.2	84.0	84.0	0.7
	North Central.....	325.9	328.5	5.7	352.0	337.0	5.5
	South and West.....	138.3	138.3	1.5	130.0	128.0	1.1

Note: Detail may not add to the total because of independent rounding.

(D) Withheld to avoid disclosing figures for individual companies. (X) Not applicable.

Table 4. Selected Supplies, Minerals Received for Preparation, and Purchased Machinery Installed: 1967 and 1963

(See appendix, "Explanation of Terms")

Code	Supplies and geographic area	Unit of measure	1967		1963	
			Quantity	Cost (million dollars)	Quantity	Cost (million dollars)
	INDUSTRY 1494.--NATIVE ASPHALT AND BITUMENS					
	Selected supplies, minerals received for preparation, and purchased machinery installed, total.....	.....	(X)	2.2	(X)	1.7
353011	Purchased machinery installed.....	.....	(X)	0.3	(X)	0.6
	Supplies used:					
289211	Explosive materials, except ammonium nitrate.....	1,000 lbs.....	687.5	0.1	}	(X)
289212	Ammonium nitrate.....	do.....	(D)	(D)		
289214	Blasting accessories.....	.....	(X)	(Z)		
331201	Steel mill shapes and forms.....	1,000 short tons.	(D)	(D)		
970099	All other supplies.....	.....	(X)	1.6		
976000	Selected supplies, minerals received for preparation, and pur- chased machinery installed, n.s.k ¹}.....	.....	}		}
	INDUSTRY 1498.--PEAT					
	Selected supplies, minerals received for preparation, and purchased machinery installed, total.....	.....	(X)	1.8	(X)	1.7
353011	Purchased machinery installed.....	.....	(X)	0.3	(X)	0.7
	Supplies used.....	.....	}	(X)	(X)	1.0
976000	Selected supplies, minerals received for preparation, and pur- chased machinery installed, n.s.k ¹.....	.....			

Note: Detail may not add to totals because of independent rounding.

(D) Withheld to avoid disclosing figures for individual companies. n.s.k. Not specified by kind. (x) Not applicable. (Z) Less than \$50 thousand.

¹This item represents the total cost of supplies for establishments that did not report detailed supplies. For 1967, this also includes estimates for establishments that were not mailed report forms.

SCOPE AND COVERAGE

This report is one of a series presenting preliminary information on industries and products from the 1967 Census of Mineral Industries. The data will be superseded in a final report which in turn will be included in Volume I, Summary and Industry Statistics, 1967 Census of Mineral Industries. That report will include a comprehensive discussion of the concepts and definitions used in the census.

The census of mineral industries covers each mining establishment of firms in the United States with one or more paid employees. Firms which operate more than one establishment were required to file a separate report for each location. Companies which engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation and the activities were of significant size.

For oil and gas field operation and contract services, reports were required for units somewhat different from the "establishment" reporting unit used for other types of mining. Every concern which operated oil and gas wells, drilled such wells for its own account or for others, performed exploration work for oil or gas, or performed oil and gas field services for others during any part of calendar year 1967 was required to submit a separate report for each State or for each district within Texas, Louisiana, New Mexico, and California (however, information on employment, oil and gas production, and capital expenditures was requested by county). Further, concerns which supplied contract services for others were required to submit a separate report for each State. (In this instance also, information on employment, receipts for services, and capital expenditures was requested by county.)

In the 1967 census, for the first time, approximately 10,000 single-unit establishments with 1 to 4 employees were excused from filing reports. Under special arrangements which safeguarded the confidentiality of both tax and census records, limited data on payrolls, sales, and industry classification from the administrative records of the Social Security Administration and the Internal Revenue Service were made available to the Census Bureau for use in the 1967 censuses of business, manufactures, and mineral industries. Estimates for data other than payrolls and sales for these small establishments were constructed from industry averages. The effect on industry aggregates is slight in most industries. For mining as a whole, they account for less than 1 percent of value added. In industry 1494, these small establishments accounted for less than 1 percent of value added and in industry 1498 these small establishments accounted for less than 3 percent of value added.

In the 1967 Census of Mineral Industries, data for all single-unit establishments without paid employees were excluded because of the difficulty in

developing a mailing list for these establishments. The exclusion of these establishments has had only a slight effect on industry aggregates for most industries. Data for establishments without employees were included in the 1963, 1958, and 1954 censuses if these establishments reported more than \$500 in one of the following data items: (1) value of shipments and receipts, (2) cost of supplies and purchased machinery, or (3) capital expenditures. In the 1963 census, establishments without paid employees for mining as a whole accounted for approximately 3 percent of value added, while they accounted for less than 1 percent of value added for industry 1494, and less than 4 percent of value added for industry 1498.

As in earlier censuses, a number of small establishments may have been misclassified as to industry. However, such possible misclassifications have no significant effect on the statistics other than the number of establishments. As indicated above, report forms were not mailed to very small establishments (less than 5 employees). The industry classifications for these establishments were assigned on the basis of brief descriptions of the general activity of the establishment. Where the description is incomplete or there are relatively fine lines of demarcation between industries or between mining and nonmining activity, the code assigned to an establishment could differ from that which would have been assigned on the basis of more complete product information. Therefore, the total establishment count should be reviewed as an approximation rather than a precise measurement. The counts of establishments with 20 or more employees are far more reliable than the total number of establishments.

More detailed figures for this industry will appear in the final census reports. Final reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each mineral industry and for each State are being issued. Final industry reports and final area reports will be published during the spring and fall of 1970. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C. 20233.

The 1967 Census of Mineral Industries is the 16th census of mineral establishments in the United States. For 1967, it was conducted jointly with the censuses of manufactures, retail trade, wholesale trade, and selected services under authority of Title 13 of the United States Code. Title 13 specified that a census of mineral industries be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7."

Appendix

EXPLANATION OF TERMS

(For a more complete discussion of these terms and the method of compiling the Census of Mineral Industries, see the Introduction to the 1963 Census of Mineral Industries, Volume I.)

All Employees--All full-time and part-time employees on the payrolls of operating mineral establishments for any part of the pay period ended nearest the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of the corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The number of production workers is the average of those for mid-month payroll periods of March, May, August, and November. The "all employee" number is the average number of production workers plus the number of other employees in mid-March.

Payroll--This item includes all forms of compensation such as salaries, wages, commissions, dismissal pay, all bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' Social Security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of these establishments, if a corporation; it excludes payments to the proprietor or partners, if an unincorporated concern. Respondents were told that in reporting they could follow the definition of payroll used for calculating the Federal withholding tax.

Production, Development, and Exploration Worker Man-Hours--The total man-hours figures represent all man-hours that production, development, and exploration workers worked both on active days during which there was production or development work, and inactive days, when only watchmen, inspectors, repairmen, and other maintenance men were on duty. They include all man-hours worked or paid for at the mining operations, except hours paid for vacations, holidays, or sick leave, when the employee was not at the establishment. Included are actual overtime hours, not straight-time equivalent hours. Man-hours of working proprietors or partners are excluded.

Cost of Supplies, etc., and Purchased Machinery--The 1967 census report forms requested information on supplies and purchased machinery installed; fuels and electric energy used; and contract work done by others for each establishment. These items included charges to both the current and capital accounts. The figures reported were to include items used during 1967 whether purchased, withdrawn from inventories, or received from other establishments of the company. For selected supplies and fuels and for electric energy, both quantity and cost data were requested. The cost data refer to direct charges actually paid or payable (after discounts) for items used during the year. Freight charges and other direct charges incurred by the establishment in acquiring the items are included. Where the company's records did not show actual amounts used, they were asked to approximate use by adding purchases (or receipts) during the year to opening inventory and subtracting closing inventory.

Separate figures were obtained for (a) selected supplies, minerals received for preparation, and purchased machinery installed; (b) electric energy purchased; (c) purchased fuels used for heat, power, or the generation of electricity; (d) contract work done by others; and (e) products bought and resold in the same condition. Supplies and equipment used in mine development, plant expansion, and capitalized repairs, which are chargeable to fixed assets accounts, were included, as were supplies furnished without charge to contractors for use at the mining operation and supplies sold to employees for use at the establishment. No data on such costs as advertising, insurance, telephone, and research and consulting services of other establishments; or on overhead costs, such as depreciation charges, rent, interest, and royalties were included in this item.

Specific Supplies Used and Minerals Prepared--In addition to the total cost of supplies, etc., and purchased machinery which every establishment was required to report, information was also collected on the consumption of major supplies used in mining. These supplies inquiries were restricted to those supplies which were important parts of the cost of production, exploration, and development of a particular industry and for which cost information was available from the firms' records. Information regarding the specific supplies consumed is shown in table 4.

On report forms for almost all mineral industries, except the contract services industries, a uniform inquiry was included on minerals prepared at the reported establish-

ments. Figures were obtained on minerals prepared from three sources: (1) Crude minerals mined at the establishment (quantity); (2) crude minerals received from other establishments of the company or purchased from others (quantity and cost); and (3) crude minerals received for preparation on a custom or toll basis (quantity and estimated value).

Establishments consuming less than a specified amount (usually \$5,000) were not requested to report the cost of a supply separately. Also, the cost of supplies for small establishments for which administrative records were used were imputed as "not specified by kind." (See text for importance of administrative records in the industry.)

Capital Expenditures--In the 1967 census, mining companies were asked to report expenditures made during the year for development and exploration of mineral properties, for new construction, and for machinery purchased at their operations that was chargeable to fixed assets accounts of the mineral establishment and were of a type for which depreciation, depletion, or Office of Minerals Exploration accounts were ordinarily maintained. Capital expenditures during 1967 were to be determined as "additions completed during the year plus construction in progress at the end of the year minus construction in progress at the beginning of the year." Reported capital expenditures were to include work done on contract as well as by the mine forces. Expenditures for machinery and equipment were to include those made for replacement purposes, as well as those for additions to capacity. Excluded from such expenditures totals are costs of maintenance and repairs charged as current operating expense. Also excluded are expenditures for land and mineral rights.

Wherever applicable, separate figures were provided for expenditures for (a) development and exploration of mineral property, (b) preparation plant construction and other construction, (c) new machinery and equipment, and (d) used plant and used equipment acquired from others.

Value of Shipments--The amounts under value of shipments are the values, f.o.b., mine, well, or plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts such as receipts for contract work performed for others, installation and repair, sales of scrap, and sale of products bought and resold without further processing. Included are all items produced by

the establishments and sold, transferred to other plants of the same company, or shipped on consignment.

In the case of multiunit companies, the firm was requested to report the value of products transferred to other establishments of the same company at full economic or commercial value, i.e., include not only the direct costs of production but also a reasonable proportion of "all other costs" (including company overhead) and profit.

Individual Products--In the 1967 Census of Mineral Industries, information on output of about 225 individual mineral product items was collected.

In general, the 1967 and 1963 minerals censuses figures were confined to separate totals for each crude and each prepared mineral. Where significant, separate shipments figures were also obtained for crude minerals going to preparation plants and those going to consumers.

Figures were collected on both quantity and value of shipments. Shipments include commercial shipments and transfers of products to other operations of the same company. For products which are used to a significant extent within the same establishment for power or heat, and for minerals mined and prepared in the same establishment, total production or separate data on production for such uses were collected. Typically, production was also collected for products for which there are usually significant differences between total production and total shipments as a result of stock changes.

For service industries, the amount received or due for services performed during 1967 was collected as a measure of output. For mine operators who also perform services, the amount received for such services was added to the total value of products shipped to determine total value of shipments and receipts for each establishment.

Table 3 of the individual industry reports provides the national and regional total shipments from all industries for each of the products primary to the industries covered in the report.

Shipments and Production--Shipments figures include all products physically shipped from the establishment during 1967, including material withdrawn from stockpiles and products shipped on consignment, whether or not sold in 1967. Prepared material or concentrates include prep-

aration from ores mined at the same establishment, purchased, received from other operations of the same company, or received for milling on a custom or toll basis. For products transferred to other establishments of the same company or prepared on a custom basis, the company was requested to include, in addition to direct costs of production, a reasonable proportion of company overhead and profits.

For industry and industry group totals, some duplication is introduced by the inclusion of materials transferred from one establishment to another for mineral preparation. Wherever value of shipments is shown without further specification, it represents gross shipments.

For years prior to 1954, data on shipments were not collected. Instead, the report forms requested data on the quantity and value of

production. In general, the data for these years were edited to represent net production, excluding duplications due to mining and later preparing the same material in the same industry.

Value Added in Mining--Since the 1954 census, this measure has been computed by subtracting the cost of supplies, etc., and purchased machinery from the sum of value of shipments and receipts and capital expenditures. This statistic avoids the duplication in value of shipments which results from the use of products of some establishments as supplies, energy sources, or materials by others. Moreover, it provides a measure of value added not only in mineral production, but also in the development of mineral properties. For these reasons, it is considered to be the best value measure for comparing the relative economic importance of mining among industries and geographic areas.



1967 Census of MINERAL INDUSTRIES

INDUSTRY SERIES



U.S. DEPARTMENT OF COMMERCE / Bureau of the Census

preliminary report

MIC67(P)-14E-5

Pumice and pumicite and Natural abrasives, except sand.

SIC Codes 1495 and 1497

The Pumice and Pumicite Industry includes establishments primarily engaged in mining, quarrying, milling, or otherwise preparing pumice and pumicite (volcanic ash).

The Natural Abrasives, Except Sand, Industry includes establishments primarily engaged in mining, quarrying, milling, or otherwise preparing natural abrasives, such as corundum, industrial diamonds, emery, garnet, and tripoli. This industry includes the shaping of natural abrasive stones at the quarry. Establishments primarily engaged in the production of blast, grinding, or polishing sand are classified in industry 1446, Industrial Sand, and those primarily engaged in the production of diatomite in industry 1499, Miscellaneous Nonmetallic Minerals, N.E.C.

This report includes figures for administrative offices, warehouses, storage facilities, and other auxiliary units which service mining establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions contained in the 1967 edition of the Standard Industrial Classifications (SIC) Manual.

In 1967, the value of products shipped and miscellaneous receipts of establishments classified in the Pumice and Pumicite Industry amounted to \$2.8 million, a decrease of 48.1 percent compared with 1963. Value added in mining amounted to \$2.0 million in 1967, a decrease of 52.4 percent from 1963. Most of the decrease in shipments and value added in this industry results from the exclusion of zero employee establishments from the 1967 Census. Average employment in the industry in 1967 was 0.2 thousand, the same as 1963.

In 1967, the value of products shipped and miscellaneous receipts of establishments classified in the Natural Abrasives, Except Sand, Industry amounted to \$5.7 million, an increase of 14.0 percent compared with 1963. Value added in mining amounted to \$4.3 million in 1967, an increase of 4.9 percent from 1963. Average employment in the industry in 1967 was 0.3 thousand, the same as 1963.

For an explanation of the terms used in the tables, see appendix at the end of this report.

TABLE 1. General Statistics: 1967 and Earlier Years

(See appendix, "Explanation of Terms")

Year	Establishments		All employees		Production, development, and exploration workers			Value added in mining	Cost of supplies, etc., and purchased machinery installed	Value of shipments and receipts	Capital expenditures
	Total	With 20 employees or more	Number	Payroll	Number	Man-hours	Wages				
	(number)	(number)	(1,000)	(million dollars)	(1,000)	(millions)	(million dollars)	(million dollars)	(million dollars)	(million dollars)	(million dollars)
	INDUSTRY 1495.--PUMICE AND PUMICITE										
1967.....	29	2	0.2	1.0	0.1	0.2	0.7	2.0	0.9	2.8	0.2
1963.....	85	1	0.2	1.1	0.2	0.4	1.0	4.2	1.8	5.4	0.7
1958.....	70	2	0.4	1.2	0.3	0.5	1.0	4.4	1.7	5.5	0.6
1954 ¹	75	1	0.3	1.0	0.2	0.4	0.7	2.7	1.1	3.4	0.4
1939 ²	17	(NA)	0.1	0.1	0.1	0.2	0.1	0.3	0.1	³ 0.4	(NA)
	INDUSTRY 1497.--NATURAL ABRASIVES, EXCEPT SAND										
1967.....	18	5	0.3	2.2	0.2	0.5	1.4	4.3	2.8	5.7	1.4
1963.....	23	5	0.3	1.6	0.2	0.5	1.0	4.1	1.4	5.0	0.5
1958.....	20	4	0.2	1.0	0.2	0.4	0.8	2.6	0.9	3.4	0.1
1954.....	22	3	0.2	0.9	0.2	0.4	0.7	2.9	0.9	3.5	0.3
1939.....	⁴ 36	(NA)	0.4	0.5	0.4	0.8	0.3	1.1	⁵ 0.2	³ 1.3	(NA)
1929 ²	30	(NA)	0.5	0.7	0.5	(NA)	0.5	1.2	⁵ 0.3	³ 1.4	(NA)
1919 ²	34	(NA)	0.4	0.4	0.3	(NA)	0.3	0.5	0.2	0.7	(NA)
1909 ⁶	⁴ 63	(NA)	0.8	0.3	0.8	(NA)	0.3	0.6	0.2	0.8	(NA)
1902 ⁶	⁴ 71	(NA)	0.6	0.3	⁷ 0.6	(NA)	0.3	1.0	⁵ 0.1	³ 1.1	(NA)
1889 ⁸	(NA)	(NA)	0.5	0.1	0.4	(NA)	0.1	0.2	(Z)	0.3	(NA)
1880 ⁹	⁴ 45	(NA)	0.5	0.2	0.5	(NA)	0.2	0.3	0.3	0.6	(NA)
1870 ¹⁰	35	(NA)	0.2	0.1	(NA)	(NA)	(NA)	0.1	0.1	0.2	(NA)
1860 ¹¹	(NA)	(NA)	0.4	0.1	(NA)	(NA)	(NA)	0.3	0.1	0.4	(NA)
1850 ¹²	(NA)	(NA)	0.2	0.1	(NA)	(NA)	(NA)	0.1	0.1	0.2	(NA)

(NA) Not available. (Z) Less than \$50 thousand.

¹Excludes data for 2 establishments with less than 5 employees in Hawaii.²For 1929 and 1919, figures for the Pumice and Pumicite Industry are included with those for the Natural Abrasives, Except Sand, Industry. For 1929, figures for the Diatomite subindustry are included with those for the Natural Abrasives, Except Sand, Industry.³Represents value of net shipments and receipts.⁴Represents number of mines.⁵Excludes the cost of minerals received for preparation.⁶For 1909, represents establishments primarily producing grindstones; buhrstones and millstones; oilstones, scythestones, and whetstones; corundum and emery; garnet; and tripoli. For 1902, represents establishments primarily producing grindstones and pulpstones; buhrstones and millstones; oilstones, whetstones, and scythestones; corundum and emery; garnet; and crystalline quartz. Excludes establishments primarily producing tripoli (these are included with the figures for the Diatomite subindustry); in 1909, the value of production of tripoli establishments represented 6 percent of the total value of production for the Natural Abrasives, Except Sand, Industry. For 1909, excludes data for 2 nonproducing establishments.⁷Figures for average employment were reduced to a 300-day basis for establishments which operated for a shorter period.⁸Represents establishments primarily producing corundum, grindstones, millstones, and whetstones; for 1902, the value of shipments for such products amounted to 91 percent of the total shown for the Natural Abrasives Industry in that year.⁹Represents establishments primarily producing corundum, garnet, grindstones, millstones, oilstones, scythestones, shoemakers' stones, and whetstones.¹⁰Represents establishments primarily producing burr millstones, grindstones, and millstones only.¹¹Represents establishments primarily producing grindstones, millstones, whetstones, scythestones, whetstones, corundum, and emery.¹²Represents establishments primarily producing grindstones, buhrstones, and millstones only. Such establishments accounted for about 80 percent of the total value of products shown for this industry for 1860.

TABLE 2. General Statistics, by Geographic Areas: 1967 and 1963

(See appendix, "Explanation of Terms")

(See appendix, "Explanation of Terms")

Geographic area	1967											1963	
	Establishments		All employees		Production, development, and exploration workers			Value added in mining	Cost of supplies, etc., and purchased machinery installed	Value of shipments and receipts	Capital expenditures	All employees	Value added in mining
	Total	With 20 employ- ees or more	Number	Payroll	Number	Man-hours	Wages						
	(number)	(number)	(1,000)	(million dollars)	(1,000)	(millions)	(million dollars)	(million dollars)	(million dollars)	(million dollars)	(million dollars)	(1,000)	(million dollars)
	INDUSTRY 1495.--PUMICE AND PUMICITE												
United States.....	29	2	0.2	1.0	0.1	0.2	0.7	2.0	0.9	2.8	0.2	0.2	4.2
Mountain.....	13	-	(Z)	0.2	(Z)	0.1	0.2	0.6	0.2	0.8	0.1	0.1	2.0
Pacific.....	12	2	0.1	0.7	0.1	0.2	0.5	1.3	0.7	1.9	0.1	0.1	2.1
	INDUSTRY 1497.--NATURAL ABRASIVES, EXCEPT SAND												
United States.....	18	5	0.3	2.2	0.2	0.5	1.4	4.3	2.8	5.7	1.4	1.3	4.1
Middle Atlantic and North Central.....	13	5	0.3	1.9	0.2	0.4	1.3	3.6	2.6	5.0	1.3	0.3	3.8

- Represents zero. (Z) Less than one-half of the unit of measure specified.

Table 3. Production and Quantity and Value of Shipments by All Producers: 1967 and 1963

(Includes production and quantity and value of products reported not only by establishments classified in this industry, but also by establishments classified in other industries, and shipping these products as "secondary" products. See appendix under "Individual Products")

Product code	Product and geographic area	1967			1963		
		Production (1,000 short tons)	Shipments, including interplant transfers		Production (1,000 short tons)	Shipments, including interplant transfers	
			Quantity (1,000 short tons)	Value (million dollars)		Quantity (1,000 short tons)	Value (million dollars)
14950 00	PUMICE AND PUMICITE ¹	1,320.8	1,318.1	3.3	2,308.0	2,294.0	5.5
	Mountain.....	415.2	420.0	0.9	1,305.0	1,329.0	² 2.6
	New Mexico.....	171.2	171.2	0.5	306.0	306.0	0.9
	Pacific.....	865.9	858.4	2.4	981.0	943.0	2.7
	Oregon.....	323.5	323.2	0.7	362.0	362.0	² 0.6
	California.....	401.6	394.3	1.3	286.0	266.0	1.5
14970 00	NATURAL ABRASIVES, EXCEPT SAND.....	104.8	103.2	5.7	84.0	83.0	5.0
	Middle Atlantic Division and North Central Region.....	91.5	90.0	5.0	78.0	78.0	4.6

¹Excludes federal, State, and local government operations.

²Represents value of shipments of establishments in the Pumice and Pumicite Industry.

Table 4. Selected Supplies, Minerals Received for Preparation, and Purchased Machinery Installed: 1967 and 1963

(See appendix, "Explanation of Terms")

Code	Supplies	Unit of measure	1967		1963	
			Quantity	Cost (million dollars)	Quantity	Cost (million dollars)
	INDUSTRY 1495.--PUMICE AND PUMICITE					
	Selected supplies, minerals received for preparation, and purchased machinery installed, total.....		(X)	0.5	(X)	1.3
353011	Purchased machinery installed.....		(X)	0.1	(X)	0.5
	Supplies used:					
970099	All other supplies.....		(X)	0.1	}	0.8
976000	Selected supplies, minerals received for preparation, and purchased machinery installed, n.s.k. ¹		(X)	0.2		
	INDUSTRY 1497.--NATURAL ABRASIVES, EXCEPT SAND					
	Selected supplies, minerals received for preparation, and purchased machinery installed, total.....		(X)	2.3	(X)	1.0
353011	Purchased machinery installed.....		(X)	(²)	(X)	0.1
	Supplies used:					
28921-	Explosives.....		}	(Z)	}	0.9
331201	Steel mill shapes and forms.....					
970099	All other supplies.....			² 2.2		
976000	Selected supplies, minerals received for preparation, and purchased machinery installed, n.s.k. ¹		(X)	0.1		

Note: Detail may not add to the total because of independent rounding.

n.s.k. Not specified by kind. (X) Not applicable. (Z) Less than \$50 thousand.

thousand.

¹This item represents the total cost of supplies for establishments that did not report detailed supplies data. For 1967, this also includes estimates for companies that were not mailed report forms.

²Cost of purchased machinery installed is included with all other supplies.

SCOPE AND COVERAGE

This report is one of a series presenting preliminary information on industries and products from the 1967 Census of Mineral Industries. The data will be superseded in a final report which in turn will be included in Volume I, Summary and Industry Statistics, 1967 Census of Mineral Industries. That report will include a comprehensive discussion of the concepts and definitions used in the census.

The census of mineral industries covers each mining establishment of firms in the United States with one or more paid employees. Firms which operate more than one establishment were required to file a separate report for each location. Companies which engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation and the activities were of significant size.

For oil and gas field operation and contract services, reports were required for units somewhat different from the "establishment" reporting unit used for other types of mining. Every concern which operated oil and gas wells, drilled such wells for its own account or for others, performed exploration work for oil or gas, or performed oil and gas field services for others during any part of calendar year 1967 was required to submit a separate report for each State or for each district within Texas, Louisiana, New Mexico, and California (however, information on employment, oil and gas production, and capital expenditures was requested by county). Further, concerns which supplied contract services for others were required to submit a separate report for each State. (In this instance also, information on employment, receipts for services, and capital expenditures was requested by county.)

In the 1967 census, for the first time, approximately 10,000 single-unit establishments with 1 to 4 employees were excused from filing reports. Under special arrangements which safeguarded the confidentiality of both tax and census records, limited data on payrolls, sales, and industry classification from the administrative records of the Social Security Administration and the Internal Revenue Service were made available to the Census Bureau for use in the 1967 censuses of business, manufactures, and mineral industries. Estimates for data other than payrolls and sales for these small establishments were constructed from industry averages. The effect on industry aggregates is slight in most industries. For mining as a whole, they account for less than 1 percent of value added. In industry 1495, these small establishments accounted for approximately 7 percent of value added and in industry 1497 these small establishments accounted for approximately 1 percent of value added.

In the 1967 Census of Mineral Industries, data for all single-unit establishments without paid employees were excluded because of the difficulty in

developing a mailing list for these establishments. The exclusion of these establishments has had only a slight effect on industry aggregates for most industries. Data for establishments without employees were included in the 1963, 1958, and 1954 censuses if these establishments reported more than \$500 in one of the following data items: (1) value of shipments and receipts, (2) cost of supplies and purchased machinery, or (3) capital expenditures. In the 1963 census, establishments without paid employees for mining as a whole accounted for approximately 3 percent of value added, while they accounted for less than 10 percent of value added for industry 1495, and less than 1 percent of value added for industry 1497.

As in earlier censuses, a number of small establishments may have been misclassified as to industry. However, such possible misclassifications have no significant effect on the statistics other than the number of establishments. As indicated above, report forms were not mailed to very small establishments (less than 5 employees). The industry classifications for these establishments were assigned on the basis of brief descriptions of the general activity of the establishment. Where the description is incomplete or there are relatively fine lines of demarcation between industries or between mining and nonmining activity, the code assigned to an establishment could differ from that which would have been assigned on the basis of more complete product information. Therefore, the total establishment count should be reviewed as an approximation rather than a precise measurement. The counts of establishments with 20 or more employees are far more reliable than the total number of establishments.

More detailed figures for this industry will appear in the final census reports. Final reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each mineral industry and for each State are being issued. Final industry reports and final area reports will be published during the spring and fall of 1970. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C. 20233.

The 1967 Census of Mineral Industries is the 16th census of mineral establishments in the United States. For 1967, it was conducted jointly with the censuses of manufactures, retail trade, wholesale trade, and selected services under authority of Title 13 of the United States Code. Title 13 specified that a census of mineral industries be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7."

Appendix

EXPLANATION OF TERMS

(For a more complete discussion of these terms and the method of compiling the Census of Mineral Industries, see the Introduction to the 1963 Census of Mineral Industries, Volume I.)

All Employees--All full-time and part-time employees on the payrolls of operating mineral establishments for any part of the pay period ended nearest the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of the corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The number of production workers is the average of those for mid-month payroll periods of March, May, August, and November. The "all employee" number is the average number of production workers plus the number of other employees in mid-March.

Payroll--This item includes all forms of compensation such as salaries, wages, commissions, dismissal pay, all bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' Social Security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of these establishments, if a corporation; it excludes payments to the proprietor or partners, if an unincorporated concern. Respondents were told that in reporting they could follow the definition of payroll used for calculating the Federal withholding tax.

Production, Development, and Exploration Worker Man-Hours--The total man-hours figures represent all man-hours that production, development, and exploration workers worked both on active days during which there was production or development work, and inactive days, when only watchmen, inspectors, repairmen, and other maintenance men were on duty. They include all man-hours worked or paid for at the mining operations, except hours paid for vacations, holidays, or sick leave, when the employee was not at the establishment. Included are actual overtime hours, not straight-time equivalent hours. Man-hours of working proprietors or partners are excluded.

Cost of Supplies, etc., and Purchased Machinery--The 1967 census report forms requested information on supplies and purchased machinery installed; fuels and electric energy used; and contract work done by others for each establishment. These items included charges to both the current and capital accounts. The figures reported were to include items used during 1967 whether purchased, withdrawn from inventories, or received from other establishments of the company. For selected supplies and fuels and for electric energy, both quantity and cost data were requested. The cost data refer to direct charges actually paid or payable (after discounts) for items used during the year. Freight charges and other direct charges incurred by the establishment in acquiring the items are included. Where the company's records did not show actual amounts used, they were asked to approximate use by adding purchases (or receipts) during the year to opening inventory and subtracting closing inventory.

Separate figures were obtained for (a) selected supplies, minerals received for preparation, and purchased machinery installed; (b) electric energy purchased; (c) purchased fuels used for heat, power, or the generation of electricity; (d) contract work done by others; and (e) products bought and resold in the same condition. Supplies and equipment used in mine development, plant expansion, and capitalized repairs, which are chargeable to fixed assets accounts, were included, as were supplies furnished without charge to contractors for use at the mining operation and supplies sold to employees for use at the establishment. No data on such costs as advertising, insurance, telephone, and research and consulting services of other establishments; or on overhead costs, such as depreciation charges, rent, interest, and royalties were included in this item.

Specific Supplies Used and Minerals Prepared--In addition to the total cost of supplies, etc., and purchased machinery which every establishment was required to report, information was also collected on the consumption of major supplies used in mining. These supplies inquiries were restricted to those supplies which were important parts of the cost of production, exploration, and development of a particular industry and for which cost information was available from the firms' records. Information regarding the specific supplies consumed is shown in table 4.

On report forms for almost all mineral industries, except the contract services industries, a uniform inquiry was included on minerals prepared at the reported establish-

ments. Figures were obtained on minerals prepared from three sources: (1) Crude minerals mined at the establishment (quantity); (2) crude minerals received from other establishments of the company or purchased from others (quantity and cost); and (3) crude minerals received for preparation on a custom or toll basis (quantity and estimated value).

Establishments consuming less than a specified amount (usually \$5,000) were not requested to report the cost of a supply separately. Also, the cost of supplies for small establishments for which administrative records were used were imputed as "not specified by kind." (See text for importance of administrative records in the industry.)

Capital Expenditures--In the 1967 census, mining companies were asked to report expenditures made during the year for development and exploration of mineral properties, for new construction, and for machinery purchased at their operations that was chargeable to fixed assets accounts of the mineral establishment and were of a type for which depreciation, depletion, or Office of Minerals Exploration accounts were ordinarily maintained. Capital expenditures during 1967 were to be determined as "additions completed during the year plus construction in progress at the end of the year minus construction in progress at the beginning of the year." Reported capital expenditures were to include work done on contract as well as by the mine forces. Expenditures for machinery and equipment were to include those made for replacement purposes, as well as those for additions to capacity. Excluded from such expenditures totals are costs of maintenance and repairs charged as current operating expense. Also excluded are expenditures for land and mineral rights.

Wherever applicable, separate figures were provided for expenditures for (a) development and exploration of mineral property, (b) preparation plant construction and other construction, (c) new machinery and equipment, and (d) used plant and used equipment acquired from others.

Value of Shipments--The amounts under value of shipments are the values, f.o.b., mine, well, or plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts such as receipts for contract work performed for others, installation and repair, sales of scrap, and sale of products bought and resold without further processing. Included are all items produced by

the establishments and sold, transferred to other plants of the same company, or shipped on consignment.

In the case of multiunit companies, the firm was requested to report the value of products transferred to other establishments of the same company at full economic or commercial value, i.e., include not only the direct costs of production but also a reasonable proportion of "all other costs" (including company overhead) and profit.

Individual Products--In the 1967 Census of Mineral Industries, information on output of about 225 individual mineral product items was collected.

In general, the 1967 and 1963 minerals censuses figures were confined to separate totals for each crude and each prepared mineral. Where significant, separate shipments figures were also obtained for crude minerals going to preparation plants and those going to consumers.

Figures were collected on both quantity and value of shipments. Shipments include commercial shipments and transfers of products to other operations of the same company. For products which are used to a significant extent within the same establishment for power or heat, and for minerals mined and prepared in the same establishment, total production or separate data on production for such uses were collected. Typically, production was also collected for products for which there are usually significant differences between total production and total shipments as a result of stock changes.

For service industries, the amount received or due for services performed during 1967 was collected as a measure of output. For mine operators who also perform services, the amount received for such services was added to the total value of products shipped to determine total value of shipments and receipts for each establishment.

Table 3 of the individual industry reports provides the national and regional total shipments from all industries for each of the products primary to the industries covered in the report.

Shipments and Production--Shipments figures include all products physically shipped from the establishment during 1967, including material withdrawn from stockpiles and products shipped on consignment, whether or not sold in 1967. Prepared material or concentrates include prep-

aration from ores mined at the same establishment, purchased, received from other operations of the same company, or received for milling on a custom or toll basis. For products transferred to other establishments of the same company or prepared on a custom basis, the company was requested to include, in addition to direct costs of production, a reasonable proportion of company overhead and profits.

For industry and industry group totals, some duplication is introduced by the inclusion of materials transferred from one establishment to another for mineral preparation. Wherever value of shipments is shown without further specification, it represents gross shipments.

For years prior to 1954, data on shipments were not collected. Instead, the report forms requested data on the quantity and value of

production. In general, the data for these years were edited to represent net production, excluding duplications due to mining and later preparing the same material in the same industry.

Value Added in Mining--Since the 1954 census, this measure has been computed by subtracting the cost of supplies, etc., and purchased machinery from the sum of value of shipments and receipts and capital expenditures. This statistic avoids the duplication in value of shipments which results from the use of products of some establishments as supplies, energy sources, or materials by others. Moreover, it provides a measure of value added not only in mineral production, but also in the development of mineral properties. For these reasons, it is considered to be the best value measure for comparing the relative economic importance of mining among industries and geographic areas.

U.S. DEPARTMENT OF COMMERCE
Bureau of the Census
Washington, D.C. 20233

OFFICIAL BUSINESS



POSTAGE AND FEES PAID
U.S. DEPARTMENT OF COMMERCE



1967 Census of MINERAL INDUSTRIES

INDUSTRY SERIES



U.S. DEPARTMENT OF COMMERCE/Bureau of the Census

preliminary report

MIC67(P)-14E-6

Talc, soapstone, and pyrophyllite

SIC Code 1496

The Talc, Soapstone, and Pyrophyllite Industry includes establishments primarily engaged in mining; quarrying, milling, or otherwise preparing talc, soapstone, or pyrophyllite. Dimension soapstone is included in this industry. Establishments engaged in grinding or otherwise preparing talc, soapstone, or pyrophyllite which do not include a mine are classified in the manufacturing industry 3295, Minerals and Earths, Ground or Otherwise Treated.

This report includes figures for administrative offices, warehouses, storage facilities, and other auxiliary units which service mining establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions contained in the 1967 edition

of the Standard Industrial Classification (SIC) Manual.

In 1967, the value of products shipped and miscellaneous receipts of establishments classified in the Talc, Soapstone, and Pyrophyllite Industry amounted to \$21.3 million, an increase of 21.7 percent compared with 1963. Value added in mining amounted to \$16.9 million in 1967, an increase of 23.4 percent from 1963. Average employment in the industry showed a decrease of 7.7 percent from 1963 to a total of 1.2 thousand employees in 1967.

For an explanation of the terms used in the tables, see appendix at the end of this report.

TABLE 1. General Statistics: 1967 and Earlier Years

(See appendix, "Explanation of Terms")

(See appendix, "Explanation of Terms")

Year	Establishments		All employees		Production, development, and exploration workers			Value added in mining (million dollars)	Cost of supplies, etc., and purchased machinery installed (million dollars)	Value of shipments and receipts (million dollars)	Capital expenditures (million dollars)
	Total	With 20 employ- ees or more	Number	Payroll	Number	Man-hours	Wages				
	(number)	(number)	(1,000)	(million dollars)	(1,000)	(millions)	(million dollars)				
	INDUSTRY 1496.-- TALC, SOAPSTONE, AND PYROPHYLLITE										
1967.....	53	19	1.2	7.4	1.1	2.3	5.8	16.9	6.1	21.3	1.7
1963.....	65	9	1.3	6.6	1.1	2.2	5.4	13.7	4.9	17.5	1.1
1958.....	64	12	1.3	5.3	1.1	2.3	4.2	11.8	4.1	14.9	0.9
1954.....	68	13	1.5	4.9	1.3	2.8	4.1	9.5	3.5	11.8	1.2
1939.....	¹ 38	(NA)	1.1	1.2	1.0	2.1	0.8	2.4	² 0.8	³ 3.3	(NA)
1929.....	25	(NA)	0.6	0.8	0.6	(NA)	0.6	2.0	² 0.7	³ 2.7	(NA)
1919.....	28	(NA)	1.1	1.1	1.0	(NA)	0.8	1.7	0.6	2.3	(NA)
1909.....	39	(NA)	1.4	0.6	1.3	(NA)	0.5	0.9	0.3	1.2	(NA)
1902.....	¹ 20	(NA)	0.8	0.3	⁴ 0.8	(NA)	0.3	1.0	² 0.1	³ 1.1	(NA)
1889.....	(NA)	(NA)	0.3	0.1	⁵ 0.3	(NA)	0.1	0.4	(Z)	³ 0.5	(NA)
1880.....	¹ 14	(NA)	0.2	0.1	(NA)	(NA)	(NA)	0.1	(Z)	³ 0.1	(NA)
1870.....	9	(NA)	0.1	(Z)	(NA)	(NA)	(NA)	0.1	0.1	³ 0.2	(NA)

(NA) Not available. (Z) Less than \$50 thousand.

¹Represents number of mines.

²Excludes the cost of minerals received for preparation.

³Represents value of net shipments and receipts.

⁴Figures for average employment were reduced to a 300-day basis for establishments which operated for a shorter period.

⁵Represents the average number employed during the time the mines were active.

TABLE 2. General Statistics, by Geographic Areas: 1967 and 1963

(See appendix, "Explanation of Terms")

Geographic area	1967											1963	
	Establishments		All employees		Production, development, and exploration workers			Value added in mining	Cost of supplies, etc., and purchased machinery installed	Value of shipments and receipts	Capital expenditures	All employees	Value added in mining
	Total	With 20 employ-ees or more	Number	Payroll	Number	Man-hours	Wages						
	(number)	(number)	(1,000)	(million dollars)	(1,000)	(millions)	(million dollars)						
	(million dollars)	(million dollars)	(million dollars)	(million dollars)	(million dollars)	(million dollars)	(million dollars)	(million dollars)	(million dollars)	(1,000)	(million dollars)		
	INDUSTRY 1496.--TALC, SOAPSTONE, AND PRYOPHYLLITE												
United States, total..	53	19	1.2	7.4	1.1	2.3	5.8	16.9	6.1	21.3	1.7	1.3	13.7
Northeast.....	12	6	0.4	3.0	0.3	0.7	2.2	7.3	2.3	8.9	0.7	0.4	6.3
South Atlantic.....	15	6	0.5	2.2	0.4	0.9	1.9	4.9	1.1	5.8	0.2	¹ 0.7	¹ 4.9
North Carolina.....	8	3	0.1	0.7	0.1	0.2	0.5	1.9	0.5	2.3	0.1	0.2	1.5
South Central.....	5	2	0.1	0.5	0.1	0.2	0.5	1.8	1.1	2.6	0.3	(¹)	(¹)
West.....	21	5	0.2	1.6	0.2	0.4	1.3	2.9	1.6	4.0	0.5	0.2	2.5

Note: Detail may not add to the total because of independent rounding.

¹Figures for South Central are included with those for South Atlantic.

Table 3. Production and Quantity and Value of Net Shipments by All Producers, by Geographic Areas: 1967 and 1963

(Includes production and quantity and value of products reported not only by establishments classified in this industry, but also by establishments classified in other industries, and shipping these products as "secondary" products. See appendix under "Individual Products")

Product code	Product and geographic areas	1967			1963		
		Production (1,000 short tons)	Shipments, including interplant transfers		Production (1,000 short tons)	Shipments, including interplant transfers	
			Quantity (1,000 short tons)	Value (million dollars)		Quantity (1,000 short tons)	Value (million dollars)
1496- --	TALC, SOAPSTONE, AND PYROPHYLLITE, TOTAL.....	(X)	(X)	¹ 20.2	(X)	(X)	¹ ² 16.8
	UNITED STATES						
14961 01	Crude production and net shipments.....	980.9	¹ 293.9	¹ 3.2	873.0	¹ 219.0	¹ 1.9
	Prepared (crushed, ground, or sawed, including flotation concentrates), total.....	(NA)	(NA)	(NA)	(NA)	795.0	18.7
14962 01	Ore mined and processed at establishments classified in the mineral industries.....	611.7	604.6	17.0	601.0	601.0	14.9
	Ore processed at establishments classified in the manufacturing industries.....	(NA)	(NA)	(NA)	(NA)	194.0	3.8
	NORTHEAST						
14961 01	Crude.....	421.6	} 348.8	8.5	380.0	¹ 8.0	(Z)
14962 01	Prepared ³	(D)			323.0	323.0	7.9
	SOUTH						
14961 01	Crude.....	320.6	¹ 67.7	¹ 0.3	278.0	¹ 85.0	¹ 0.4
14962 01	Prepared ³	248.2	242.9	7.4	(NA)	256.0	6.3
	North Carolina:						
14961 01	Crude.....	113.5	(D)	(D)	107.0	43.0	0.2
14962 01	Prepared ³	93.9	93.1	2.0	63.0	63.0	1.6
	Texas:						
14961 01	Crude.....	92.5	(D)	(D)	(NA)	(NA)	(NA)
	WEST						
14961 01	Crude.....	238.7	} 239.1	4.0	215.0	¹ 130.0	¹ 1.5
14962 01	Prepared ³	(D)			(NA)	216.0	4.6
	California:						
14961 01	Crude.....	156.4	(D)	(D)	146.0	¹ 92.0	¹ 1.2
14962 01	Prepared ³	(NA)	(D)	(D)	(NA)	130.0	3.1

Note: Detail may not add to the total because of independent rounding. (D) Withheld to avoid disclosing figures for individual companies. (NA) Not available. (Z) Less than \$50 thousand. (X) Not applicable.

¹Represents net shipments; that is, gross shipments less minerals received from other establishments for preparation.

²Excludes data for prepared talc, soapstone, and pyrophyllite produced at establishments classified in manufacturing industries and shown separately below.

³Figures for 1967 represent ore mined and processed at establishments classified in the minerals industry only, whereas figures for 1963 also include ore processed at establishments classified in the manufacturing industries.

Table 4. Selected Supplies, Minerals Received for Preparation, and Purchased Machinery Installed: 1967 and 1963

(See appendix, "Explanation of Terms")

Code	Supplies	Unit of measure	1967		1963	
			Quantity	Cost (million dollars)	Quantity	Cost (million dollars)
	INDUSTRY 1496.--TALC, SOAPSTONE, AND PYROPHYLLITE					
	Selected supplies, minerals received for preparation, and purchased machinery installed, total.....		(X)	4.8	(X)	3.7
147091	Minerals mined and received for preparation:					
	Mined and prepared at same establishment.....	1,000 short tons.	686.8	(NA)	594.0	(NA)
	Received for preparation.....		(D)	(¹)	(NA)	0.3
353011	Purchased machinery installed.....		(X)	1.2	(X)	0.5
	Supplies used:					
289211	Explosive materials, except ammonium nitrate.....	1,000 pounds.....	582.8	0.1		
289212	Ammonium nitrate.....					
289214	Blasting accessories.....					
331201	Steel mill shapes and forms.....					
970099	All other supplies.....		(X)	3.4	(X)	3.0
976000	Selected supplies, minerals received for preparation and purchased machinery installed, n.s.k. ²					

Note: Detail may not add to the total because of independent rounding. (D) Withheld to avoid disclosure of individual company data.
 (X) Not applicable. n.s.k. Not specified by kind. (NA) Not available.

¹Minerals received for preparation are included with all other supplies.

²This item represents the total cost of supplies for establishments that did not report detailed supplies data. For 1967 this also includes estimates for establishments that were not mailed report forms.

SCOPE AND COVERAGE

This report is one of a series presenting preliminary information on industries and products from the 1967 Census of Mineral Industries. The data will be superseded in a final report which in turn will be included in Volume I, Summary and Industry Statistics, 1967 Census of Mineral Industries. That report will include a comprehensive discussion of the concepts and definitions used in the census.

The census of mineral industries covers each mining establishment of firms in the United States with one or more paid employees. Firms which operate more than one establishment were required to file a separate report for each location. Companies which engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation and the activities were of significant size.

For oil and gas field operation and contract services, reports were required for units somewhat different from the "establishment" reporting unit used for other types of mining. Every concern which operated oil and gas wells, drilled such wells for its own account or for others, performed exploration work for oil or gas, or performed oil and gas field services for others during any part of calendar year 1967 was required to submit a separate report for each State or for each district within Texas, Louisiana, New Mexico, and California (however, information on employment, oil and gas production, and capital expenditures was requested by county). Further, concerns which supplied contract services for others were required to submit a separate report for each State. (In this instance also, information on employment, receipts for services, and capital expenditures was requested by county.)

In the 1967 census, for the first time, approximately 10,000 single-unit establishments with 1 to 4 employees were excused from filing reports. Under special arrangements which safeguarded the confidentiality of both tax and census records, limited data on payrolls, sales, and industry classification from the administrative records of the Social Security Administration and the Internal Revenue Service were made available to the Census Bureau for use in the 1967 censuses of business, manufactures, and mineral industries. Estimates for data other than payrolls and sales for these small establishments were constructed from industry averages. The effect on industry aggregates is slight in most industries. For mining as a whole, they account for less than 1 percent of value added. In industry 1496, these small establishments accounted for less than 1 percent of value added.

In the 1967 Census of Mineral Industries, data for all single-unit establishments without paid employees were excluded because of the difficulty in

developing a mailing list for these establishments. The exclusion of these establishments has had only a slight effect on industry aggregates for most industries. Data for establishments without employees were included in the 1963, 1958, and 1954 censuses if these establishments reported more than \$500 in one of the following data items: (1) value of shipments and receipts, (2) cost of supplies and purchased machinery, or (3) capital expenditures. In the 1963 census, establishments without paid employees for mining as a whole accounted for approximately 3 percent of value added, while they accounted for less than 2 percent of value added for industry 1496.

As in earlier censuses, a number of small establishments may have been misclassified as to industry. However, such possible misclassifications have no significant effect on the statistics other than the number of establishments. As indicated above, report forms were not mailed to very small establishments (less than 5 employees). The industry classifications for these establishments were assigned on the basis of brief descriptions of the general activity of the establishment. Where the description is incomplete or there are relatively fine lines of demarcation between industries or between mining and nonmining activity, the code assigned to an establishment could differ from that which would have been assigned on the basis of more complete product information. Therefore, the total establishment count should be reviewed as an approximation rather than a precise measurement. The counts of establishments with 20 or more employees are far more reliable than the total number of establishments.

More detailed figures for this industry will appear in the final census reports. Final reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each mineral industry and for each State are being issued. Final industry reports and final area reports will be published during the spring and fall of 1970. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C. 20233.

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Appendix

EXPLANATION OF TERMS

(For a more complete discussion of these terms and the method of compiling the Census of Mineral Industries, see the Introduction to the 1963 Census of Mineral Industries, Volume I.)

All Employees--All full-time and part-time employees on the payrolls of operating mineral establishments for any part of the pay period ended nearest the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of the corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The number of production workers is the average of those for mid-month payroll periods of March, May, August, and November. The "all employee" number is the average number of production workers plus the number of other employees in mid-March.

Payroll--This item includes all forms of compensation such as salaries, wages, commissions, dismissal pay, all bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' Social Security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of these establishments, if a corporation; it excludes payments to the proprietor or partners, if an unincorporated concern. Respondents were told that in reporting they could follow the definition of payroll used for calculating the Federal withholding tax.

Production, Development, and Exploration Worker Man-Hours--The total man-hours figures represent all man-hours that production, development, and exploration workers worked both on active days during which there was production or development work, and inactive days, when only watchmen, inspectors, repairmen, and other maintenance men were on duty. They include all man-hours worked or paid for at the mining operations, except hours paid for vacations, holidays, or sick leave, when the employee was not at the establishment. Included are actual overtime hours, not straight-time equivalent hours. Man-hours of working proprietors or partners are excluded.

Cost of Supplies, etc., and Purchased Machinery--The 1967 census report forms requested information on supplies and purchased machinery installed; fuels and electric energy used; and contract work done by others for each establishment. These items included charges to both the current and capital accounts. The figures reported were to include items used during 1967 whether purchased, withdrawn from inventories, or received from other establishments of the company. For selected supplies and fuels and for electric energy, both quantity and cost data were requested. The cost data refer to direct charges actually paid or payable (after discounts) for items used during the year. Freight charges and other direct charges incurred by the establishment in acquiring the items are included. Where the company's records did not show actual amounts used, they were asked to approximate use by adding purchases (or receipts) during the year to opening inventory and subtracting closing inventory.

Separate figures were obtained for (a) selected supplies, minerals received for preparation, and purchased machinery installed; (b) electric energy purchased; (c) purchased fuels used for heat, power, or the generation of electricity; (d) contract work done by others; and (e) products bought and resold in the same condition. Supplies and equipment used in mine development, plant expansion, and capitalized repairs, which are chargeable to fixed assets accounts, were included, as were supplies furnished without charge to contractors for use at the mining operation and supplies sold to employees for use at the establishment. No data on such costs as advertising, insurance, telephone, and research and consulting services of other establishments; or on overhead costs, such as depreciation charges, rent, interest, and royalties were included in this item.

Specific Supplies Used and Minerals Prepared--In addition to the total cost of supplies, etc., and purchased machinery which every establishment was required to report, information was also collected on the consumption of major supplies used in mining. These supplies inquiries were restricted to those supplies which were important parts of the cost of production, exploration, and development of a particular industry and for which cost information was available from the firms' records. Information regarding the specific supplies consumed is shown in table 4.

On report forms for almost all mineral industries, except the contract services industries, a uniform inquiry was included on minerals prepared at the reported establish-

ments. Figures were obtained on minerals prepared from three sources: (1) Crude minerals mined at the establishment (quantity); (2) crude minerals received from other establishments of the company or purchased from others (quantity and cost); and (3) crude minerals received for preparation on a custom or toll basis (quantity and estimated value).

Establishments consuming less than a specified amount (usually \$5,000) were not requested to report the cost of a supply separately. Also, the cost of supplies for small establishments for which administrative records were used were imputed as "not specified by kind." (See text for importance of administrative records in the industry.)

Capital Expenditures--In the 1967 census, mining companies were asked to report expenditures made during the year for development and exploration of mineral properties, for new construction, and for machinery purchased at their operations that was chargeable to fixed assets accounts of the mineral establishment and were of a type for which depreciation, depletion, or Office of Minerals Exploration accounts were ordinarily maintained. Capital expenditures during 1967 were to be determined as "additions completed during the year plus construction in progress at the end of the year minus construction in progress at the beginning of the year." Reported capital expenditures were to include work done on contract as well as by the mine forces. Expenditures for machinery and equipment were to include those made for replacement purposes, as well as those for additions to capacity. Excluded from such expenditures totals are costs of maintenance and repairs charged as current operating expense. Also excluded are expenditures for land and mineral rights.

Wherever applicable, separate figures were provided for expenditures for (a) development and exploration of mineral property, (b) preparation plant construction and other construction, (c) new machinery and equipment, and (d) used plant and used equipment acquired from others.

Value of Shipments--The amounts under value of shipments are the values, f.o.b., mine, well, or plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts such as receipts for contract work performed for others, installation and repair, sales of scrap, and sale of products bought and resold without further processing. Included are all items produced by

the establishments and sold, transferred to other plants of the same company, or shipped on consignment.

In the case of multiunit companies, the firm was requested to report the value of products transferred to other establishments of the same company at full economic or commercial value, i.e., include not only the direct costs of production but also a reasonable proportion of "all other costs" (including company overhead) and profit.

Individual Products--In the 1967 Census of Mineral Industries, information on output of about 225 individual mineral product items was collected.

In general, the 1967 and 1963 minerals censuses figures were confined to separate totals for each crude and each prepared mineral. Where significant, separate shipments figures were also obtained for crude minerals going to preparation plants and those going to consumers.

Figures were collected on both quantity and value of shipments. Shipments include commercial shipments and transfers of products to other operations of the same company. For products which are used to a significant extent within the same establishment for power or heat, and for minerals mined and prepared in the same establishment, total production or separate data on production for such uses were collected. Typically, production was also collected for products for which there are usually significant differences between total production and total shipments as a result of stock changes.

For service industries, the amount received or due for services performed during 1967 was collected as a measure of output. For mine operators who also perform services, the amount received for such services was added to the total value of products shipped to determine total value of shipments and receipts for each establishment.

Table 3 of the individual industry reports provides the national and regional total shipments from all industries for each of the products primary to the industries covered in the report.

Shipments and Production--Shipments figures include all products physically shipped from the establishment during 1967, including material withdrawn from stockpiles and products shipped on consignment, whether or not sold in 1967. Prepared material or concentrates include prep-

aration from ores mined at the same establishment, purchased, received from other operations of the same company, or received for milling on a custom or toll basis. For products transferred to other establishments of the same company or prepared on a custom basis, the company was requested to include, in addition to direct costs of production, a reasonable proportion of company overhead and profits.

For industry and industry group totals, some duplication is introduced by the inclusion of materials transferred from one establishment to another for mineral preparation. Wherever value of shipments is shown without further specification, it represents gross shipments.

For years prior to 1954, data on shipments were not collected. Instead, the report forms requested data on the quantity and value of

production. In general, the data for these years were edited to represent net production, excluding duplications due to mining and later preparing the same material in the same industry.

Value Added in Mining--Since the 1954 census, this measure has been computed by subtracting the cost of supplies, etc., and purchased machinery from the sum of value of shipments and receipts and capital expenditures. This statistic avoids the duplication in value of shipments which results from the use of products of some establishments as supplies, energy sources, or materials by others. Moreover, it provides a measure of value added not only in mineral production, but also in the development of mineral properties. For these reasons, it is considered to be the best value measure for comparing the relative economic importance of mining among industries and geographic areas.

U.S. DEPARTMENT OF COMMERCE
Bureau of the Census
Washington, D.C. 20233

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1967 Census of MINERAL INDUSTRIES

INDUSTRY SERIES



U.S. DEPARTMENT OF COMMERCE / Bureau of the Census

preliminary report

MIC67(P)-14E-7

Nonmetallic minerals, n.e.c.

SIC Code 1499

The Miscellaneous Nonmetallic Minerals, Not Elsewhere Classified, Industry includes establishments primarily engaged in mining, quarrying, milling, or otherwise preparing nonmetallic minerals, not elsewhere classified, such as asbestos, diatomite, natural gem stones, graphite, greensand, perlite, shell, Iceland spar (optical grade calcite), and vermiculite.

This report includes figures for administrative offices, warehouses, storage facilities, and other auxiliary units which service mining establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions contained in the 1967 edition of the Standard Industrial Classification (SIC) Manual.

In 1967, the value of products shipped and miscellaneous receipts of establishments classified in the Miscellaneous Nonmetallic Minerals, N.E.C., Industry amounted to \$77.5 million, an increase of 80.2 percent compared with 1963. Value added in mining amounted to \$54.1 million in 1967, an increase of 66.0 percent from 1963. Average employment in the industry showed an increase of 36.8 percent from 1963 to a total of 2.6 thousand employees in 1967.

For an explanation of the terms used in the tables, see appendix at the end of this report.

TABLE 1. General Statistics: 1967 and Earlier Years

(See appendix, "Explanation of Terms")

(See appendix, "Explanation of Terms")

Year	Establishments		All employees		Production, development, and exploration workers			Value added in mining (million dollars)	Cost of supplies, etc., and purchased machinery installed (million dollars)	Value of shipments and receipts (million dollars)	Capital expenditures (million dollars)
	Total	With 20 employ- ees or more	Number	Payroll	Number	Man-hours	Wages				
	(number)	(number)	(1,000)	(million dollars)	(1,000)	(millions)	(million dollars)				
	INDUSTRY 1499.--NONMETALLIC MINERALS, N.E.C.										
1967.....	125	25	2.6	18.8	2.0	4.3	13.6	54.1	27.6	77.5	4.3
1963.....	87	18	1.9	11.2	1.6	3.3	9.0	32.6	15.9	43.0	5.5
1958.....	55	17	1.8	8.6	1.3	3.0	6.0	23.4	12.4	31.6	4.2
1954.....	70	14	1.8	7.3	1.4	2.7	5.3	17.4	9.4	24.9	2.0
1939.....	¹ 37	(NA)	0.7	0.8	0.6	1.4	0.6	2.2	² 0.9	³ 3.0	(NA)

(NA) Not available.

¹Represents number of mines.

²Excludes the cost of minerals received for preparation.

³Represents value of net shipments and receipts.

TABLE 2. General Statistics, by Geographic Areas: 1967 and 1963

(See appendix, "Explanation of Terms")

Geographic area	1967											1963	
	Establishments		All employees		Production, development, and exploration workers			Value added in mining	Cost of supplies, etc., and purchased machinery installed	Value of shipments and receipts	Capital expenditures	All employees	Value added in mining
	Total	With 20 employees or more	Number	Payroll	Number	Man-hours	Wages						
	(number)	(number)	(1,000)	(million dollars)	(1,000)	(millions)	(million dollars)	(million dollars)	(million dollars)	(million dollars)	(1,000)	(million dollars)	
United States, total.	125	25	2.6	18.8	2.0	4.3	13.6	54.1	27.6	77.5	4.3	1.9	32.6
West South Central.....	14	8	0.5	3.7	0.3	0.8	2.2	5.4	8.0	13.0	0.4	0.1	0.7
Mountain.....	32	5	0.5	3.4	0.4	0.9	2.9	11.1	4.4	14.1	1.4	0.5	7.5
Arizona.....	6	1	0.1	0.3	0.1	0.1	0.2	0.7	0.2	0.9	(Z)	(NA)	(NA)
Pacific.....	25	6	1.1	8.1	0.9	1.9	6.2	29.5	12.6	40.1	2.0	0.9	19.8

(NA) Not available. (Z) Less than \$50 thousand.

Table 3. Production and Quantity and Value of Shipments by All Producers, by Geographic Areas: 1967 and 1963

(Includes production and quantity and value of products reported not only by establishments classified in this industry, but also by establishments classified in other industries, and shipping these products as "secondary" products. See appendix under "Individual Products")

Product code	Product and geographic area	1967			1963		
		Production (1,000 short tons)	Shipments including interplant transfers		Production (1,000 short tons)	Shipments including interplant transfers	
			Quantity (1,000 short tons)	Value (million dollars)		Quantity (1,000 short tons)	Value (million dollars)
1499- --	NONMETALLIC MINERALS, N. E. C., TOTAL.....	(X)	(X)	¹ 76.4	(X)	(X)	¹ 44.2
14992 01	Asbestos, crude and prepared.....	119.5	122.2	11.2	68.0	64.0	5.5
14991 03	Diatomite, crude and prepared.....	706.1	618.3	37.3	554.0	554.0	28.0
14992 03							
14992 05	Perlite ²	538.1	414.9	4.8	385.0	343.0	4.7
14992 11	Shell, crushed or broken ³	9,080.9	9,014.8	13.0	(NA)	(NA)	(NA)
14991 98	Other nonmetallic minerals ⁴	(NA)	(NA)	¹ 10.1	412.0	¹ 391.0	¹ 6.1
14992 98							

Note: Detail may not add to the total because of independent rounding. (NA) Not available. (X) Not applicable.

¹Represents net shipments, that is, gross shipments less minerals received from other establishments for preparation.²Represents crude production and crude and prepared shipments. Includes simple preparation methods such as drying and crushing, and expansion if performed in conjunction with mining.³Excludes production and shipments of shell produced and used by establishments primarily classified in construction or in manufacturing industries such as those producing cement or concrete products.⁴Represents such minerals as vermiculite, graphite, gemstones, staurolite, and greensand.

TABLE 4. Selected Supplies, Materials Received for Preparation, and Purchased Machinery, Installed: 1967 and 1963

(See appendix, "Explanation of Terms")

Code	Supplies	Unit of measure	1967		1963	
			Quantity	Cost (million dollars)	Quantity	Cost (million dollars)
	INDUSTRY 1499.--NONMETALLIC MINERALS, N.E.C.					
	Selected supplies, minerals received for preparation, and purchased machinery installed, total.....		(X)	16.4	(X)	¹ 10.2
147091	Minerals received for preparation.....		(X)	² (Z)	(NA)	¹ 0.2
353011	Purchased machinery installed.....		(X)	4.2	(X)	3.7
	Supplies used:					
289211	Explosive materials, except ammonium nitrate.....		}	² 12.2	(X)	6.3
289212	Ammonium nitrate.....					
289214	Blasting accessories.....					
331201	Steel mill shapes and forms.....					
970099	All other supplies.....		(X)		(X)	
976000	Selected supplies, minerals received for preparation, and purchased machinery installed, n.s.k. ³					

(NA) Not available. n.s.k. Not specified by kind. (X) Not applicable. (Z) Less than \$50 thousand.

¹Includes purchases for resale.²Minerals received for preparation are included with supplies used.³This item represents the total cost of supplies for establishments that did not report detailed supplies data. For 1967, this also includes estimates for companies that were not mailed report forms.

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ments. Figures were obtained on minerals prepared from three sources: (1) Crude minerals mined at the establishment (quantity); (2) crude minerals received from other establishments of the company or purchased from others (quantity and cost); and (3) crude minerals received for preparation on a custom or toll basis (quantity and estimated value).

Establishments consuming less than a specified amount (usually \$5,000) were not requested to report the cost of a supply separately. Also, the cost of supplies for small establishments for which administrative records were used were imputed as "not specified by kind." (See text for importance of administrative records in the industry.)

Capital Expenditures--In the 1967 census, mining companies were asked to report expenditures made during the year for development and exploration of mineral properties, for new construction, and for machinery purchased at their operations that was chargeable to fixed assets accounts of the mineral establishment and were of a type for which depreciation, depletion, or Office of Minerals Exploration accounts were ordinarily maintained. Capital expenditures during 1967 were to be determined as "additions completed during the year plus construction in progress at the end of the year minus construction in progress at the beginning of the year." Reported capital expenditures were to include work done on contract as well as by the mine forces. Expenditures for machinery and equipment were to include those made for replacement purposes, as well as those for additions to capacity. Excluded from such expenditures totals are costs of maintenance and repairs charged as current operating expense. Also excluded are expenditures for land and mineral rights.

Wherever applicable, separate figures were provided for expenditures for (a) development and exploration of mineral property, (b) preparation plant construction and other construction, (c) new machinery and equipment, and (d) used plant and used equipment acquired from others.

Value of Shipments--The amounts under value of shipments are the values, f.o.b., mine, well, or plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts such as receipts for contract work performed for others, installation and repair, sales of scrap, and sale of products bought and resold without further processing. Included are all items produced by

the establishments and sold, transferred to other plants of the same company, or shipped on consignment.

In the case of multiunit companies, the firm was requested to report the value of products transferred to other establishments of the same company at full economic or commercial value, i.e., include not only the direct costs of production but also a reasonable proportion of "all other costs" (including company overhead) and profit.

Individual Products--In the 1967 Census of Mineral Industries, information on output of about 225 individual mineral product items was collected.

In general, the 1967 and 1963 minerals censuses figures were confined to separate totals for each crude and each prepared mineral. Where significant, separate shipments figures were also obtained for crude minerals going to preparation plants and those going to consumers.

Figures were collected on both quantity and value of shipments. Shipments include commercial shipments and transfers of products to other operations of the same company. For products which are used to a significant extent within the same establishment for power or heat, and for minerals mined and prepared in the same establishment, total production or separate data on production for such uses were collected. Typically, production was also collected for products for which there are usually significant differences between total production and total shipments as a result of stock changes.

For service industries, the amount received or due for services performed during 1967 was collected as a measure of output. For mine operators who also perform services, the amount received for such services was added to the total value of products shipped to determine total value of shipments and receipts for each establishment.

Table 3 of the individual industry reports provides the national and regional total shipments from all industries for each of the products primary to the industries covered in the report.

Shipments and Production--Shipments figures include all products physically shipped from the establishment during 1967, including material withdrawn from stockpiles and products shipped on consignment, whether or not sold in 1967. Prepared material or concentrates include prep-

aration from ores mined at the same establishment, purchased, received from other operations of the same company, or received for milling on a custom or toll basis. For products transferred to other establishments of the same company or prepared on a custom basis, the company was requested to include, in addition to direct costs of production, a reasonable proportion of company overhead and profits.

For industry and industry group totals, some duplication is introduced by the inclusion of materials transferred from one establishment to another for mineral preparation. Wherever value of shipments is shown without further specification, it represents gross shipments.

For years prior to 1954, data on shipments were not collected. Instead, the report forms requested data on the quantity and value of

production. In general, the data for these years were edited to represent net production, excluding duplications due to mining and later preparing the same material in the same industry.

Value Added in Mining--Since the 1954 census, this measure has been computed by subtracting the cost of supplies, etc., and purchased machinery from the sum of value of shipments and receipts and capital expenditures. This statistic avoids the duplication in value of shipments which results from the use of products of some establishments as supplies, energy sources, or materials by others. Moreover, it provides a measure of value added not only in mineral production, but also in the development of mineral properties. For these reasons, it is considered to be the best value measure for comparing the relative economic importance of mining among industries and geographic areas.

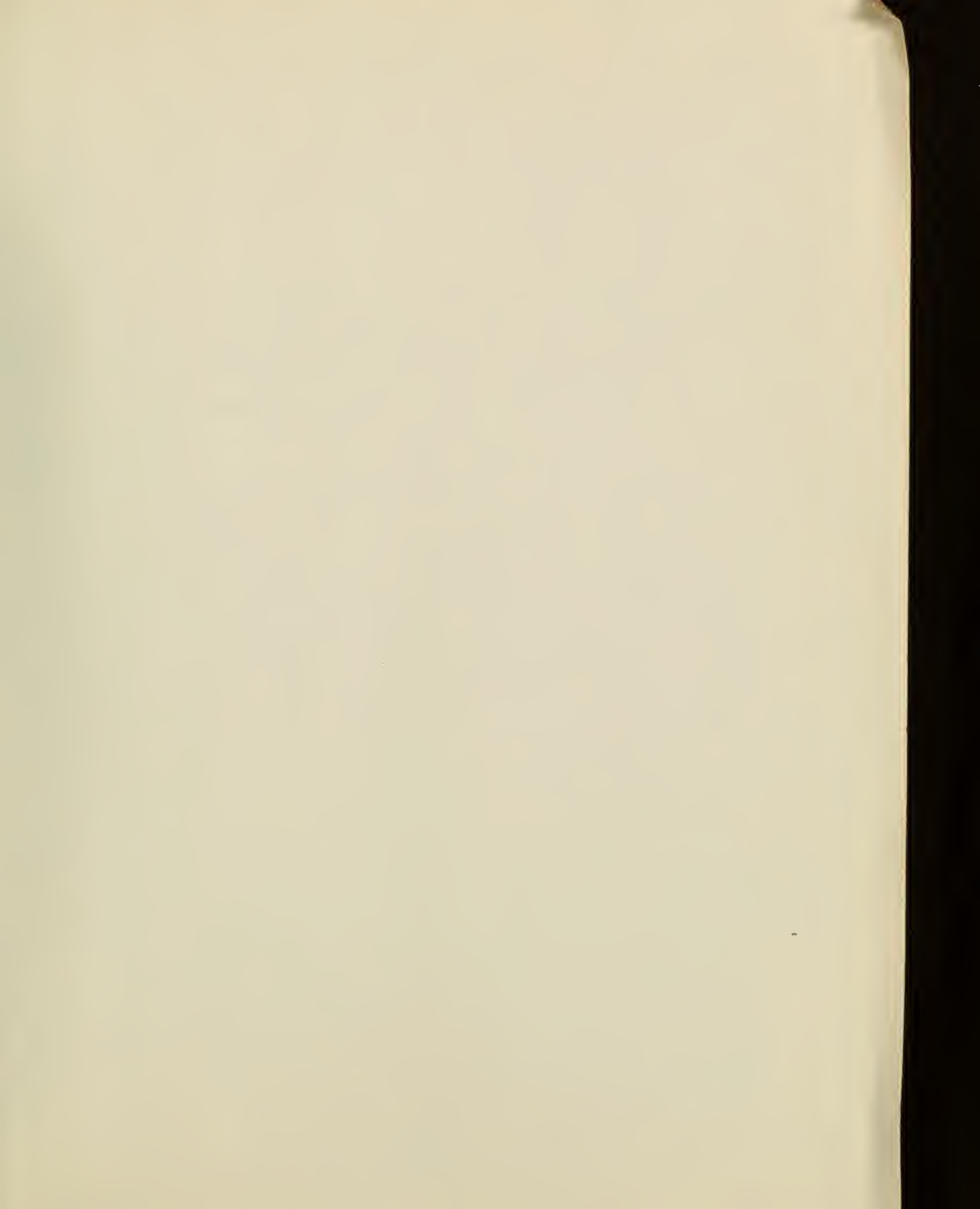
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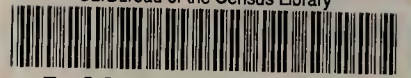
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